The New England
Journal of Medicine

VOLUME 208 MARCH 16, 1933 NUMBER 11

## NEW ENGLAND HEART ASSOCIATION

### THE PATHOLOGY OF CHRONIC MYOCARDITIS*

BY SHIELDS WARREN, M.D.†

TO talk on the pathology of chronic myocarditis is particularly difficult inasmuch as in many cases, the anatomic changes in the heart are negligible in importance, or indeed at times almost completely absent. Chronic myocarditis is a clinical rather than a pathologic term. I shall confine myself to those changes that can be recognized by the pathologist and which are found in certain of the cases of chronic myocarditis. I shall pass over the fibrotic changes due to the healed stages of acute toxic myocarditis or to infectious lesions of the myocardium, such as the diffuse scarring which sometimes follows diphtheritic myocarditis and the focal scars that persist in the rare instances of recovery from acute interstitial or infectious myocarditis.

Rarely we may encounter in the course of tertiary syphilis a true chronic fibrous myocarditis, either with or without the formation of miliary gummata. The lesions in this luetic type of chronic myocarditis are chiefly perivascular, foci of fibrosis with moderate amount of mononuclear infiltration. The lesion is more a productive one than a replacement or condensation fibrosis.

Most commonly, however, when we find diffuse fibrosis of the myocardium, it is the result of impairment of the coronary circulation due ordinarily to arteriosclerosis, or atherosclerosis, as Aschoff terms it, although at times a syphilitic mesarteritis may give rise to an almost identical picture. The genesis of these fibrous patches is essentially as follows: With impairment of the circulation foci of necrosis in the heart muscle develop, ranging from microscopic size to those sufficiently large to be grossly recognizable as infarcts. There is no essential difference between the small fibrous patch of chronic myocarditis and the large fibrosed scar of healed infaret of heart. The only difference lies in the bulk of heart muscle effected.

With the necrosis of heart muscle two more or less parallel changes take place. The fibroblastic stroma of the destroyed muscle tends to condense and the nearby fibroblasts frequently are stimulated to proliferate and produce an increased amount of collagen. At the same time this fibrosis takes place hypertrophy of the remaining healthy muscle fibers also occurs, an essential compensatory change if cardiac function is to be maintained. Along with this fibrosis and hypertrophy we frequently find a dilatation of the heart. This dilatation I believe to be due primarily to the fibrosis, as fibrous tissue is inelastic and once stretched it remains stretched. The extent of the dilatation parallels to a rather marked degree the extent of the fibrosis. This dilatation is seen best in the so-called cardiac aneurysm where there is marked bulging of the scar representing a healed infarct. At times actual rupture of these cardiac aneurysms may occur, although of course a rupture of a recent infaret because of the friable character of the necrotic tissue is much more frequent.

I have been particularly impressed in my diabetic autopsies by the great frequency with which fibrous myocarditis occurs, paralleling the marked degree of arteriosclerosis shown by these same cases. Perhaps the most extreme degree of the process, infarction, either recent or healed, is a fair index of the prevalence of this process among diabetic patients. Thus out of my series of 300 diabetic autopsies there were 12.4% that showed infarcts of the heart, whereas in Ophuls' series of 3,000 autopsies, only a small proportion of which were diabetic, the incidence of cardiac infarct was 0.7%.

We see two types of death in cases of chronic myocarditis, either gradual, ordinarily with failure of respiratory function, or sudden, with cessation of cardiac action. So far as I know there is no difference in the lesions in the heart in these two types.

*Read at the meeting of the New England Heart Association, June 1, 1932.

†Warren—Pathologist to the New England Deaconess, New England Baptist, Collis P. Huntington Memorial and Pondville State Hospitals. For record and address of author see "This Week's Issue," page 602.

# DIAGNOSIS OF CHRONIC NONVALVULAR CARDIAC DISEASE (CHRONIC MYOCARDITIS)*

BY HENRY A. CHRISTIAN, M.D.†

1. TERMINOLOGY is unsatisfactory. Chronic nonvalvular cardiac disease, if one understands that the pericardium is not concerned, is satisfactorily descriptive. Chronic myocarditis carries the idea of inflammation with connective tissue proliferation and this usually is lacking. However, in classical Greek the termination "-itis" did not mean inflammation of but merely "concerning, of or about", and in this classical sense chronic myocarditis is a justified title.
2. Constitutes half of cardiac patients in an adult clinic; incidence increases with advancing years; rare before 45 except after hypertension; may occur at any age from the cradle to the grave.
3. Symptoms those of cardiac insufficiency of any cause.
4. Physical examination shows cardiac enlargement; in obese or emphysematous patients x-ray may be needed to determine size of heart. Very rarely heart is not enlarged.
5. A murmur, systolic in time, often is present, but there may be no murmur; if present, may be of any intensity or distribution; basal diastolic murmur sometimes is heard, due to dilatation of aortic or pulmonic orifice.
6. Rhythm regular or irregular; extrasystoles most frequent; auricular fibrillation next in frequency; bundle branch block or intraventricular block quite often shown in electrocardiogram; bundle branch block often detectable by inspection and palpation as pointed out by John T. King, Jr.
7. Hypertension often present and an important etiological factor, but in some patients never present. Arteriosclerosis, especially of coronary arteries, has same relation; syphilis is not an etiological factor except exceedingly rarely.
8. In a high percentage of cases, clinical diagnosis is confirmed at autopsy.

*Outline of address at meeting of New England Heart Association, Boston Medical Library, June 1, 1932.

†Christian—Hersey Professor of Theory and Practice of Physic, Harvard University and Physician-in-Chief, Peter Bent Brigham Hospital, Boston. For record and address of author see "This Week's Issue," page 603.

# TREATMENT OF NONVALVULAR HEART DISEASE OF MIDDLE AND OLD AGE*

BY HENRY JACKSON, M.D.†

WHAT is middle age? A very bright friend of mine once said, "Middle age is from 45 years to the age of the person with whom you are talking." Not a bad description, though some of us feel that 45 years may be a little young. Some of us know well what old age is, and are well aware that the joys and pleasures of old age exist but in the fancy of the poets. When middle age comes we must reduce our physical activities and must soon reduce our mental activities. As to old age Dr. Bradford told us how to recognize this insidious foe. Two intimate friends were talking and agreed that each should tell the other if he saw signs of senility that they both thought so objectionable in others. "But", said one, "how shall we know?" The other said, "That is simple, when a man thinks he is attractive to young girls and when he says that he is as strong as he ever was."

Now the statement "when a man thinks he is as strong as he ever was," contains the kernel of the treatment of the heart of old age.

The others who are to speak to you this afternoon are much more capable than I to discuss the pathology and the diagnosis of the old heart, but in a broad way as a clinician I like to use the indefinite term of "disease of the myocardium," rather than "fatty heart" which hardly exists as a chronic process, or "myocarditis" which surely does not exist except as an acute process usually associated with some acute disease and not related to the sort of trouble which we are discussing this afternoon.

My own work as a clinician practically covers the field as to the importance of the myocardium in disability of the heart. The paper of Dr. W. S. Thayer brought especially to my attention the importance of nonvalvular heart disease, and a similar study of my own cases showed that fully seventy-five per cent of cases of heart disease were not due directly to valvular disease. Our statistics may show too small a number of such cases, surely not too large a number. At the present time such a remark is trite, but forty years ago the diagnosis of heart disease was largely dependent upon the presence of murmurs, while the importance of the muscle of the heart was not understood or appreciated.

*Read at the meeting of New England Heart Association, June 1, 1932.

†Jackson—For record and address of author see "This Week's Issue," page 603.

Clinically the difficulties of the heart of old age are apparent when the heart muscle has been impaired by overwork, by strain, often without the concurrence of any severe acute process and very often without a strain dependent upon high blood pressure. It is in such conditions that to my mind the electrocardiogram gives us the most help. It shows us what types of irregularity are dangerous, and what types are harmless if they may be considered as really abnormal. The electrocardiogram gives to us the true explanation of what we formerly called "delirium cordis." "Delirium cordis" is the old and indefinite term of what we now call "auricular fibrillation."

Sinus arhythmia is of course not pathologic. Formerly many young persons came under my care in whom older doctors had given a diagnosis of previous serious disease of the heart. I usually found no evidence of any serious heart trouble and I always felt that the prognosis had been based upon the accidental discovery of sinus arhythmia. I well remember a young lad whose mother told me that as a child he had had a very bad heart, yet I found no evidence of heart trouble. He served two years in the War, as ambulance driver and later in the trenches without discomfort.

The integrity of the heart, its ability to carry on its work, the circulation, is dependent upon the tone of the muscle. A valvular defect may exist for many years and yet the individual may not suffer from heart failure, may not even be aware that he has any difficulty with the heart unless he may fall into the hands of some doctor who cannot grasp the real condition of the case. As I have said many times to students, and at various medical meetings, valvular disease becomes of importance to the individual only when and in so far as the myocardium is impaired in its efficiency. This of course does not mean that a mitral lesion is not of importance in prognosis, but to my mind it does mean that a valvular lesion does not cripple an individual so long as the muscle of the heart is able to overcome the extra work called for by the presence of the mitral or aortic lesion. I have had under my care many patients who have led an active life to an advanced age in spite of the presence of a marked valvular lesion. One of my patients never suffered from "heart disease" though up to past eighty years of age he had a tremendous valvular lesion. As a very young man he was advised by a physician in Europe to hasten home on the ground that he had a very serious heart condition.

On the other hand it is of the utmost importance that a patient should know of the existence of a definite heart trouble that he may so regulate his life as to avoid strain on the heart. There are variations from the strictly normal which are of no or slight importance. I have already spoken of sinus arhythmia, by most considered normal in children and young adults, and we may well emphasize the slight pathologic significance of premature contractions in most cases. Many are not aware of the existence of an occasional premature contraction though in some the pause which follows the premature beat may give a sense of distress. To my mind perhaps the most important service of the electrocardiograph has been to explain to us the cause of premature contractions. Many of my older teachers stressed the importance of recognizing that the occasionally irregular pulse was not of import to the individual, but it remained for the electrocardiograph to show us that the premature contraction was no proof of failure of the muscle.

Many such cases have been for years under my care without suffering in any way from heart failure, and thoroughly satisfied when once they have understood what the intermission meant, that it did not mean that they were doomed to a life of invalidism. The premature contraction does not mean failure of the myocardium and may never lead to such a pathologic condition. So far as I know there is no specific treatment of avail in the treatment of premature contractions, unless I may speak of the use of small doses of bromides in such cases as are particularly sensitive to the disordered heart action. I think such treatment may be of avail, but surely digitalis is of no avail nor is it indicated.

Now to come to the treatment of nonvalvular heart disease in middle and old age. The individuals who consult us already have a failure of the muscular power of the heart. The cause may well be obscure, a high blood pressure (not often the cause), the strain of a long life brought on by excess of physical effort, and perhaps by the strain of mental tasks and worries.

Prevention is of more avail than treatment. As men grow older they should avoid excess of muscular exertion and not think as I said in the beginning, that they were as strong as they ever were. This is without doubt the most important thing to remember. A recent number of Punch gave a wholesome warning. One man said to another, "Have you been on a vacation this year?" The other replied, "No, I have not been very well this year and I did not feel strong enough to take a vacation." There is much sound sense in this remark.

Too violent, too strenuous exercise is not for those who advance in years. It might well be for the advantage of the business world were they obliged, as we are, to cut down their activities at sixty-two or sixty-five years. In the individual case there is no doubt but that such an age is too young, but on the average this is an age when one's real vital powers begin to wane. As contributing factors I need not men-

tion the dangers of excess at the table, of Bacchus and of Venus. Doctors do not like to think so, but when I see that all college athletes are obliged to omit tobacco I often feel that tobacco may be harmful. Yet tobacco has the saving factor that it tends to give us quiet with physical and mental rest. Let us hope, if we do not think, that tobacco is not injurious.

Dr. Warren tells us about the pathology of the conditions under discussion. Perhaps he can enlighten us more fully on the etiology of the various pathologic conditions. Arteriosclerosis is always to be considered, but in my limited experience it does not seem to me that high blood pressure plays an important part in the etiology. I rather feel that a normal or slightly elevated blood pressure is often a saving factor.

Now what can we do when confronted with the failing muscular power of middle and old age? From the remarks I have made it is evident that in my opinion the myocardial heart of old age does not differ essentially from any other form of muscular heart failure. In valvular heart disease there is, so far as we know, no direct medication of value. We must avoid all strain but in the heart troubles of old age the damage has already been done and our help is called for. First and foremost, warn against all strain of the heart, as in running, walking up-hill, etc., but continue mild exercise as in walking on the level, and perhaps mild exercises like the "daily dozen" in homeopathic doses. Most of the various heart cures practised at Nauheim and similar bath resorts owe their beneficial results to the proper use of mild exercises which tend to keep the tone of the heart in condition. The heart muscle must be exercised as must any other muscle to keep it in proper condition. It seems to me quite reasonable to grant that suitable cases are helped by the graded massage and perhaps by the baths of the various heart resorts. The same results may with care be obtained at home, but warn against violent exercises and undue mental worries. An important factor is the avoidance of too much food, that the body weight may not be increased. Care in food is more important than the moderate use of alcohol and tobacco.

Digitalis is our main sheet anchor and the proper use of digitalis is of the utmost importance. Digitalis is not only of value in auricular fibrillation, though there is its most powerful field of action, but in digitalis we have I think a real tonic to the heart if I may use this much abused word; but unless the rate of the heart be quick it is of but slight value.

I do not want to be considered too old to address this company of distinguished specialists but I do not like the term or the method "digitalization". So many men in whom I have confidence feel that digitalization is the proper method of treatment of heart failure that I feel that I must be wrong. But if digitalization be the proper method of treatment for serious failure, it has no place in the treatment of a case of chronic heart disturbance associated with the failing heart of old age. In such cases the best dose is one or two grains of pulv. digitalis given every day. If the patient needs two grains of digitalis to hold the heart I prefer to omit the dose once a week, a day when all strain must be avoided. If more than two grains a day be required to hold the heart at the proper rate it is essential that the drug be omitted once in a week. Such a dosage allows the patient to recover from any injurious effect of the drug.

Nitroglycerine is often of value, and since I have known of the important suggestion of Dr. White that the dose be given before any collapse occurs, as a preventive dose, rather than as an aid to recovery from the effect of overexertion, this drug has seemed to me of great value. Codeine is essentially of value. Codeine acts in small doses as a stimulant of the heart; it does not cause constipation and, in my experience, it does not form a habit and the small dose of a quarter of a grain need not be increased. Codeine further acts to allay irritating cough and helps to promote sleep.

It is doubtful whether strychnia is of any value, though it is a drug frequently used. I doubt whether it has any value except perhaps the suggestion to the patient that one is giving something to help a hard situation. Further than the general suggestions made, the proper dose of digitalis, codeine to relieve cough and help sleep and nitroglycerine given before necessary exertion, I know of no useful medication.

In résumé—avoid extra strain as the years go by. As treatment, diet, rest, moderate exercise; and as drugs the proper use of digitalis, codeine, and nitroglycerine.

Many who hear me will not agree with my remarks and all may feel that my opinions are not correct. I have tried to express my own ideas as to the treatment of the heart disease of old age. I hope and think that my ideas have been radically changed by the brilliant advances in our knowledge which have been made in clinical laboratories. The electrocardiograph has explained the cause of many conditions of which we knew, but whose cause we did not understand.

The outstanding factors explained are (1) auricular fibrillation, (2) premature contractions, and (3) sinus arhythmia, all questions of much importance from the clinical as well as the scientific point of view.

I close my short paper with a quotation credited to Socrates, "The only thing I know is that I know nothing." This has always been a favorite quotation. "I know that I know nothing because I know that that I do not know."

## Discussion

Dr. Francis W. Palfrey: After these admirable presentations of different aspects of our subject by Dr. Warren, Dr. Christian and Dr. Jackson, I am able to add nothing except perhaps to sum up for emphasis, from what has been said, the essentials of our practical position.

Nonvalvular heart disease, as defined by Dr. Christian, is, of course, a tremendously important item in the practice of medicine; and our medical knowledge of it is typical of our medical knowledge in general, in that we have a constantly increasing amount of special knowledge of it, but still there is a great deal that we do not know. We are unable to prevent it, but we should be able to do a good deal to delay the appearance of its symptoms. We are unable to cure it, but we have a considerable power to effect improvement, to retard its advance and to prolong life. Our therapeutic measures against it are still advancing; moreover, we are of late assuming a broader view of our responsibilities in practical management.

Medicine is gradually enlarging its scope, particularly in two respects. First, we are paying increased attention to preventive medicine. Secondly, we are attempting, more than in the past, to treat the whole patient, not merely as a body with abnormal physiology but also the individual personality in its environment, with the object of conserving satisfaction and usefulness in life. In both of these respects there is opportunity for greater accomplishment in dealing with nonvalvular heart disease.

In prevention, public health and industrial medicine may well develop sound methods of regulating the labor required of older workers. But we are concerned more with the practice of medicine as individuals. Here our chief preventive opportunity lies in advice given in connection with periodic health examinations. These should include, in addition to the usual examination at rest, some working estimate of the functional capacity of the circulation. In forming such an estimate, there is no test more satisfactory than the hopping test used in the army, or, for older patients, a stair-climbing test, with observation of the pulse and respiration. In accordance with the result it may be judged for the individual what degree of physical exertion and what general pace in life is suitable. In addition it is well to give all older patients the general advice that both shortness of breath and conscious palpitation in consequence of exertion are signals that they are exceeding their limitations. They should always yield to these symptoms and never fight against them. Living according to this principle undoubtedly does much to lessen the danger of incapacity and death.

In the physical treatment of all heart disease, we depend upon two sets of forces tending to improvement: first, the recuperative processes of nature and, secondly, our special therapeutic influences not provided by nature. I feel that it is well to recognize the distinction between these two elements in our treatment, since it is my belief that we sometimes incline to focus our attention upon the more spectacular measures of the second group and neglect to derive full benefit from careful fostering of the natural processes. In the long run and in the absence of symptoms of acute insufficiency, I feel that our chief effort should be to regulate the patient's activity so as to be always within his power, accepting such gains as may occur, sometimes beyond our expectations, but always guarding against excess. Not only is the amount of work to be considered, but also the pace or rate at which it is performed. In extreme disability, training the patient to walk in steps not more than six inches long and not more than one to the second may greatly increase his range of activity.

This does not mean that I undervalue our more special therapeutics. Frequently special measures serve to bridge the gap between failure and relative success. We still see instances where delayed improvement is made more rapid by increasing the dosage of digitalis. Yet I feel that it is better to regard most of our more active measures as having their chief place in acute insufficiency, and, in the chronic stages, to place chief reliance upon regulation of the mode of life.

In the most critical conditions of acute insufficiency, venesection is a measure which deserves to be applied more often than it is. In extreme dyspnea with cyanosis, the improvement is frequently striking.

For patients with chronic heart disease, however, treatment should not end with the control of the physical symptoms. The patient's life as a whole, affected by physical disease, requires adjustment of the individual personality to its limitations. Moreover, this life with its handicap must be brought into accord with its social and economic environment. Of the personal reactions of older patients to heart disease, a very frequent one is impatience and rebellion against restrictions. Some pay the penalty by hastening their downward course in spite of all that can be done. But it is often possible to influence the patient to adopt a slower, calmer pace in his mental and emotional life, as well as in his physical movements, which brings relative contentment.

Often the most difficult of all is the social and economic problem. In many patients, if the whole truth is known, discouragement and fear of the future actually overshadow all other symptoms, and our duty is not discharged until we have restored some sense of security against privation and some prospect of enjoyment in life. The social agencies and the patient's friends should assume the chief responsibility, but to obtain assurance that suitable arrangements are made should be a part of the medical management.

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# TREATMENT OF SUBACUTE HEMORRHAGIC NEPHRITIS WITH STREPTOCOCCUS VACCINES*

BY CLIFFORD L. DERICK, M.D.,† AND JAMES P. O'HARE, M.D.†

IN their papers on hemorrhagic nephritis, O'Hare and his co-workers[1, 2] have emphasized the rôle of infection, in most instances streptococcal in nature, as an etiologic factor. The association of streptococcus infections with acute and subacute nephritis has been emphasized even more by Longcope and his co-workers[3], who not only isolated hemolytic streptococci from the tonsils, adenoids or accessory nasal sinuses of their patients but also showed that these streptococci, when grown in broth cultures, produced toxins. These toxic filtrates caused skin reactions similar to those caused by the "Dick Toxin." These authors[4] found that patients with acute and subacute nephritis showed a higher incidence of reaction and in most instances a more intense reaction than did normal individuals or those suffering from an uncomplicated tonsillitis.

Derick and Fulton[5] performed skin-tests on 670 patients and normal individuals using purified nucleoprotein extracts of streptococci as a test material. This study disclosed that patients with acute or subacute nephritis showed a marked incidence and intensity of reactions.

In the present study, 67 patients with nephritis have been skin tested (Table I). Of these six had acute, 31 subacute hemorrhagic and 22 chronic nephritis; eight had the nephrosis syndrome. In most instances the intensity of reaction as well as the incidence was greater to the hemolytic streptococcus nucleoprotein than to the green variety. When the incidence of reactions to either nucleoprotein is combined, the following percentages, 83.5, 74, 32 and 50 respectively are obtained for the types of the disease given above. These proportions for acute and subacute nephritis are very similar to those found by Longcope (81.4%) in his work with streptococcus filtrates.

In his reports Longcope[3, 4] suggests that this hypersensitive state is a manifestation of allergy to the streptococcus and that the degree of hypersensitiveness found in the skin is probably a good indication of a similar state in the other body tissues including the kidneys.

Practically all workers in the field have been impressed with the inadequacy of the treatment of hemorrhagic nephritis, and their frequent inability to prevent the progress of the lesion into a fatal chronic nephritis. In view of these facts, our experiences in rheumatic fever where a similar state of hypersensitiveness to streptococci exists, prompted us to make an attempt to arrest the progress of the disease by immunizing a group of these individuals.

TABLE I

INCIDENCE OF SKIN REACTIONS TO STREPTOCOCCUS NUCLEOPROTEINS

| Type of Nephritis | No. Cases Tested | Reactions to Hemolytic Streptococcus | | | Reactions to Green Streptococcus | | | Reactions to Either | |
|---|---|---|---|---|---|---|---|---|---|
| | | — or ± | + or ++ | +++ or ++++ | — or ± | + or ++ | +++ or ++++ | Number | % of Total |
| Acute | 6 | 1 | 2 | 3 | 5 | 1 | 0 | 5 | 83.5 |
| Subacute Hemorrhagic | 31 | 14 | 9 | 8 | 13 | 11 | 7 | 23 | 74 |
| Nephrosis | 8 | 5 | 0 | 3 | 5 | 2 | 1 | 4 | 50 |
| Chronic | 22 | 15 | 3 | 4 | 20 | 2 | 0 | 7 | 32 |
| Total | 67 | | | | | | | | |

For this purpose the purified nucleoprotein fraction of streptococci has been used in this study for the following reasons: (1) it has been shown that the tissues become allergic to this fraction; (2) the nucleoprotein is common for all strains of a similar type of streptococcus, as shown by Lancefield[6]; (3) it will keep indefinitely in the dried state; and (4), as it is readily soluble, it is easy to maintain standard conditions.

The intravenous route of vaccination has been used in all instances. This route has been shown to be much the most effective one to carry both the human and experimental animals from a hypersensitive to an immune hyposensitive state. An excellent dissertation on this subject was presented by Swift at the annual meeting of the American Physicians in 1930[7].

The dosage must be as carefully chosen in the treatment of hypersensitive patients with nephritis as in the treatment of those with rheumatic fever. In the present work an initial dosage

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Read before the Association of American Physicians, Atlantic City, N. J., May 3, 1932.

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of 0.0001 mg. of the dried streptococcus nucleoprotein has been administered. The injections have been made at weekly intervals. In all instances an attempt has been made so to adjust the size of the dose, both initial and subsequent, that the patient would suffer no general reaction such as an elevation of temperature. As one might expect, however, there has been in some instances an immediate increase in albumin and red and white cells and casts in the urine. These increases are found to occur during the first 48 hours after treatment and then to subside; very rarely have they persisted longer. The size of all subsequent doses has been gauged by the reaction which followed the previous injection. The usual procedure was to double the amount given at the previous injection unless there had been a definite reaction when the same sized dose was repeated. Any general reaction, when it occurred, appeared within 24 to 36 hours after treatment. As has been found true in rheumatic fever, it needed usually 10 to 12 treatments to desensitize the patients completely as shown by repeated skin tests.

Twenty patients have been vaccinated in the present study. They varied in age from 10 to 45 years. All were suffering from hemorrhagic nephritis. In three instances treatment was started at the termination of an acute attack; all other cases had passed definitely into a subacute stage. In no instance at the start of treatment was there evidence that the disease had entered a chronic state with elevation of blood pressure and impairment of renal function. As shown in Tables II, III and IV the known duration of the disease, before treatment was started, varied from two weeks to 132 months. Patients were vaccinated with the type of streptococcus nucleoprotein to which they were most sensitive. In eleven instances this was the hemolytic variety. This table (Table II) shows that not only can the patients be desensitized to the homologous nucleoprotein, but there is very evident desensitization to the heterologous variety as well when hypersensitiveness exists. In only one instance was desensitization, as judged by repeated skin tests, not complete. It is also of interest and possibly of importance that this desensitized or immune state has persisted unchanged in nearly every case for periods up to 33 months. There has been a mild recurrence of sensitiveness in only two cases, one to the homologous nucleoprotein and the other to the heterologous variety.

Two patients (Table III), who were about equally sensitive to both varieties of nucleoprotein, were treated with a mixture of equal amounts of each. Complete desensitization was obtained in both and though the intervals are relatively short, two and nine months, this desensitization has persisted up to the present.

Seven patients (Table IV) were more sensitive to green streptococcus nucleoprotein and

TABLE II

PATIENTS VACCINATED WITH HEMOLYTIC STREPTOCOCCUS NUCLEOPROTEIN

GENERAL DATA AND DESENSITIZATION RESULTS

| Name | Age | Type of Nephritis | Known Duration in Months | Degree of Sensitiveness | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Before Vacc. | | After Vacc. | | Follow up | | |
| | | | | Hem. | Green | Hem. | Green | Months Interval | Hem. | Green |
| G. K. H. | 39 | S. Ac. H. | 48 | + | + | 0 | 0 | 39 | ? | ? |
| C. H. C. | 18 | Ac. | 13 | ++++ | 0 | + | 0 | 33 | 0 | 0 |
| T. H. P. | 45 | S. Ac. H. | 12+ | ++++ | +++ | 0 | 0 | 32 | + | 0 |
| F. J. G. | 41 | S. Ac. H. | 16+ | + | + | 0 | 0 | 10 | 0 | 0 |
| A. A. C. | 15 | Ac. | ½ | ++++ | 0 | ? | ? | 23 | 0 | 0 |
| A. F. P. | 24 | S. Ac. H. | 13+ | ++++ | + | 0 | 0 | 21 | 0 | 0 |
| R. W. G. | 18 | S. Ac. H. | 1 | ++ | ± | 0 | 0 | 8 | 0 | 0 |
| V. K. F. | 18 | Ac. | ½ | ++ | ++ | 0 | 0 | 9 | 0 | + |
| H. L. Q. | 18 | S. Ac. H. | 2 | ++ | ++ | 0 | 0 | 8 | 0 | 0 |
| F. J. L. | 13 | S. Ac. H. | 16 | +++ | + | ± | 0 | 8 | 0 | 0 |
| J. A. R. | 33 | S. Ac. H. | 30+ | +++ | 0 | 0 | 0 | 2 | ? | ? |

TABLE III

PATIENTS VACCINATED WITH MIXED STREPTOCOCCUS NUCLEOPROTEIN

GENERAL DATA AND DESENSITIZATION RESULTS

| Name | Age | Type of Nephritis | Known Duration in Months | Degree of Sensitiveness | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Before Vacc. | | After Vacc. | | Follow Up | | |
| | | | | Hem. | Green | Hem. | Green | Months Interval | Hem. | Green |
| S. R. P. | 34 | S. Ac. H. | 48+ | + | ++ | 0 | 0 | 9 | 0 | 0 |
| J. A. S. | 31 | S. Ac. H. | 8 | + | + | 0 | 0 | 2 | ? | ? |

were treated with this variety only. As judged by these few cases the green streptococcus nucleoprotein is not so efficacious an antigen as is the hemolytic variety. It was not possible to skin test one patient (G.E.S.) at the completion of treatment. Of the other six, two (R.N.C.) and (F.J.W.), were completely desensitized and have remained so since; two continued to show a persistence of mild hypersensitiveness to the homologous nucleoprotein. One of these (F.A.W.) has become more sensitive to both varieties of nucleoprotein during the subsequent 25 months. His condition, as judged by general examination and urinalysis, has remained satisfactory, and he is being watched for the present. The skin sensitiveness of the other of these two patients (F.J.D.) has undergone little change during 35 months. One patient (J.H.C.) became definitely more sensitive to the hemolytic nucleoprotein while being treated with the green variety, but as this did not persist it probably had little or no significance. The remaining patient (E.C.O.) probably should not have been treated as he was only doubtfully sensitive to either nucleoprotein. He had been vaccinated previously with a whole streptococcus autogenous vaccine without recognizable benefit.

A study of the condition of these patients (Table V) after an interval of two to 33 months following treatment reveals that of the eleven who were treated with hemolytic streptococcus nucleoprotein all but one consider themselves well. This one patient (H.L.Q.) had massive edema at the outset and showed many elements commonly found in nephrosis including a marked lowering of the plasma proteins. She has, also, been forced by circumstances to lead a very active existence.

It is of interest that of five of these patients who had had repeated upper respiratory infections previously, four attribute their improvement to the fact that they have remained free from infection since vaccination. It is noteworthy that in the interval since treatment there has been at least one mild epidemic of streptococcal respiratory disease in the city and that no attempt was made to guard these patients against contracting the infection. In one in-

TABLE IV

PATIENTS VACCINATED WITH GREEN STREPTOCOCCUS NUCLEOPROTEIN

GENERAL DATA AND DESENSITIZATION RESULTS

| Name | Age | Type of Nephritis | Known Duration in Months | Degree of Sensitiveness Before Vacc. Hem. | Green | After Vacc. Hem. | Green | Months Interval | Follow Up Hem. | Green |
|---|---|---|---|---|---|---|---|---|---|---|
| G. E. S. | 28 | S. Ac. H. | 8 | 0 | + | ? | ? | 9 | 0 | + |
| R. N. C. | 30 | S. Ac. H. | 2+ | 0 | ++++ | 0 | 0 | 25 | 0 | 0 |
| F. J. W. | 12 | S. Ac. H. | 7+ | 0 | ++++ | 0 | 0 | 23 | 0 | 0 |
| F. A. W. | 29 | S. Ac. H. | 132+ | ± | +++ | ± | + | 25 | ++++ | ++ |
| F. J. D. | 10 | S. Ac. H. | 35 | ++ | ++++ | + | + | 35 | ± | + |
| J. H. C. | 16 | S. Ac. H. | 2 | ± | + | ++++ | ± | 6 | + | + |
| E. C. O. | 34 | S. Ac. H. | 48+ | ± | ± | ± | 0 | 33 | 0 | 0 |

TABLE V

PATIENTS VACCINATED WITH HEMOLYTIC STREPTOCOCCUS NUCLEOPROTEIN

URINARY FINDINGS

| Name | Before Vacc. Alb. | R. B. C. | Casts | Months Interval | After Vacc. Alb. | R. B. C. | Casts | Remarks |
|---|---|---|---|---|---|---|---|---|
| A. A. C. | S. T. | Loaded | Mod. Cell. | 23 | 0 | 0 | 0 | Well |
| C. H. C. | V. S. T. | 8 | 0 | 33 | S. P. T. | 0 | 0 | Well |
| V. K. F. | V. S. T. | 11 | R. Hy. | 9 | S. P. T. | R. | 0 | Rare Colds |
| F. J. L. | T. | 55 | Occ. | 8 | 0 | 0 | 0 | Well |
| F. J. G. | S. P. T. | 6 | R. Hy. 23 F. B. G. | 31 | S. P. T. | 2 | Rare | No Colds |
| G. K. H. | S. P. T. | 18 | R. Hy. | 18 | S. P. T. | 6 | Mod. F. B. G. R. & R. B. C. | Frequent Colds |
| A. F. P. | S. T. | 15 | Occ. Hy. | 21 | S. T. | 12 | Occ. Hy. | No Colds |
| T. H. P. | S. T. | 10 | Many Hy. & Fat. | 32 | T. | 8 | Num. Hy. | No Colds |
| J. A. R. | L. T. | 4 | R. Hy. Num. M. B. G. | 2 | L. T. | 2 | Mod. Hy. R. F. B. G. | Well |
| R. W. G. | V. L. T. | Loaded | Loaded | 11 | L. T. | 5 | R. Hy. R. G. | Well |
| H. L. Q. | T. | R. | 0 | 9 | V. L. T. | 2 | Num. Hy. R. F. B. G. | Still Edema |

stance the recurrence of respiratory infections has not been influenced.

The first three patients in the table were those in whom treatment was started late in the acute stage of their nephritis. The urine of one of these is entirely normal; that of the other two contains the slightest possible trace of albumin and in one an occasional red blood cell is to be found.

Of the eight remaining cases, the urine from one and five cells per high power field in the other two.

Of the remaining four patients in the green streptococcus group, one (J. H. C.) has progressed definitely to the chronic state; another (G. E. S.) is having frequent head colds, and the urine shows more numerous red blood cells; another's condition (F. J. W.) is considered unsatisfactory, as he has become moderately anemic and under weight; the last patient, (E. C. O.), the one who was doubtfully sensitive to either nucleoprotein, has shown no change in his urinary findings.

TABLE VI

PATIENTS VACCINATED WITH MIXED STREPTOCOCCUS NUCLEOPROTEIN

URINARY FINDINGS

| Name | Before Vacc. | | | After Vacc. | | | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | Alb. | R. B. C. | Casts | Months Interval | Alb. | R. B. C. | Casts | |
| J. A. S. | V. S. T. | 30 | R. Hy. | 2 | V. S. T. | 3 | Occ. Gran. | Well |
| S. R. P. | V. S. T. | 12 | Mod. Hy. | 9 | V. S. T. | 9 | R. Hy. | Well |

one is normal, though it was known to have contained abnormal elements for 16 months before treatment was started. The urines of the other seven patients continue to show abnormal elements after intervals up to 32 months. In no instance is there evidence of progression of their disease to the chronic stage, and in many the abnormal urinary findings are less marked than they were before treatment was started.

Both patients (Table VI) who were vaccinated with mixed nucleoprotein feel quite well. In both, however, there is only slight improvement in the urine.

The seven patients (Table VII) who were vaccinated with green streptococcus nucleoprotein have done less well. Of these, three look and feel quite normal. The urine of two of these is free from albumin and casts, while in that of the third there is the slightest possible trace of albumin but no casts. In the urines of all three patients red cells are to be found. These vary from a rare cell per whole slide in one case to

*Discussion.* In an appraisal of the value of this form of treatment for hemorrhagic nephritis little can be said at the present time. It is accepted by the majority of investigators that exacerbations of this disease are largely the result of acute infections, particularly those of the throat and upper respiratory passages. The streptococcus probably plays the most important etiologic rôle in such infections. Most students of the disease agree that such exacerbations tend to prevent recovery and to increase the speed of progression of the lesion. If the fact that these patients' tissues are markedly susceptible to the products of streptococci lays them more open to repeated damage with each such insult, then this danger can be eliminated, partly or completely, by a course of vaccination. There seems no doubt but that a number of these patients have been benefited by hav-

TABLE VII

PATIENTS VACCINATED WITH GREEN STREPTOCOCCUS NUCLEOPROTEIN

URINARY FINDINGS

| Name | Before Vacc. | | | After Vacc. | | | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | Alb. | R. B. C. | Casts | Months Interval | Alb. | R. B. C. | Casts | |
| R. N. C. | S. P. T. | 20 | 3 Hy. | 25 | 0 | R. | 0 | Well |
| F. A. W. | S. P. T. | 6 | R. Hy.<br>R. M. B. G. | 25 | 0 | 5 | 0 | Well |
| F. J. D. | S. T. | 30 | R. Hy.<br>R. R. B. C. | 35 | S. P. T. | 1 | 0 | Well |
| G. E. S. | S. T. | 12 | Occ. Hy.<br>Occ. F. B. G. | 9 | S. T. | 75 | 0 | Frequent Colds |
| F. J. W. | V. S. T. | 9 | R. Gran.<br>R. R. B. C. | 23 | S. T. | 200 | R. M. B. G. | Unsatisfactory |
| J. H. C. | T. | 100+ | Num. Hy.<br>$\bar{c}$ Fat. | 35 | T. | 7 | Num. Hy. | Became Chronic |
| E. C. O. | S. T. | 75 | 0 | 33 | T. | 75 | Num. Hy. | Feeling Well |

ing fewer or no recurrences of their upper respiratory infections. Since this immune or hyposensitive state, once established, persists in most instances for an indefinite time, up to three years at least, repeated courses of vaccine treatment are not necessary.

The fact that hemolytic streptococcus nucleoprotein seems more effectual as an immunizing antigen than that of the green variety might suggest that this type of streptococcus is the more important as a causative agent in hemorrhagic nephritis.

Could one have foretold the untreated course of these patients' illnesses, one would be in a position to say definitely whether they have derived any benefit from the treatment. Observation of these patients will be continued to determine the ultimate outcome of their disease. The three patients treated during the acute stage of their nephritis might have done equally well had they been left alone. Of the remaining 17 patients, the condition of 13 has either improved or remained unchanged after an interval ranging as long as 35 months since treatment was ended; the condition of the other four patients is not so satisfactory. One has definitely become chronic, the other three have probably progressed unfavorably.

In no instance do we feel that this form of treatment has influenced the course of the disease unfavorably. The most that one can say is that it may have some merit and, if so, that it adds thereby to our armamentarium in the treatment of hemorrhagic nephritis.

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# THE COMPARATIVE VALUE OF THE SCRATCH AND INTRADERMAL METHODS OF SKIN TESTING IN ASTHMA AND HAY FEVER OF CHILDREN*

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FOR several years there has been discussion regarding the comparative merits of the cutaneous and the intradermal methods of skin testing. Much of the work has been done with food and animal emanations. The work upon which this paper is based is confined to the pollen antigens. The group tested was limited to children, under twelve years of age, who showed clinical manifestations of hay fever or asthma.

While some workers have felt that the intradermal method is more accurate, the majority feel that it is not sufficiently superior to the scratch test to warrant the extra inconvenience involved. This is especially true in the work upon children. The scratch test has in its favor its greater simplicity, as well as the fact that it creates less opposition on the part of the children and the parents. Unless there can be shown to be a definite advantage in the use of the intradermal method, the scratch test would seem to be the method of choice.

The first comparative study of these methods which has come to our attention is that of Walker and Adkinson[1], who concluded that the intradermal test was much too sensitive, and therefore not a reliable index for proper treatment. It might be pointed out in passing, that the material used for their tests was five times as concentrated as that now in use. This may well account for their results.

Schloss[2], in considering this problem speaks of the occasional case where scratch tests were negative and the intradermal tests positive.

Brown[3] made comparative tests of the two methods upon 78 individuals with asthma. Animal emanations and food proteins were used. He concluded that in every case known to be clinically sensitive to a protein, the intradermal test with that protein gave a positive reaction. He found the scratch tests positive in 50 per cent of the cases when dry powders were used and in 18 per cent when the fluid extracts were used. In a later paper Brown[4] says, "There can be no question that the intradermal method is by far the most accurate."

Larsen, Paddock and Alexander[5] were in agreement with Brown. Tests in ten patients, known to be sensitive to pollens, showed that certain individuals may give a skin reaction to the specific protein by the intradermal method and not by the cutaneous method. These workers made tests for ragweed sensitivity using four dilutions. The scratch method gave 50 per cent positive tests, while the intradermal tests were 80 per cent positive.

Peshkin and Fineman[6] compared the methods of skin testing upon 100 children, 91 with asthma, 11 with eczema or urticaria; he used 33

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antigens, of which two were pollens, ragweed and timothy. Of 91 cases tested with ragweed, 15 per cent were found positive by the scratch method, and of 76 cases, tested intradermally, but 4 per cent were positive. The tests with timothy showed 1 per cent positive by the scratch test and none by the intradermal method. They, therefore, concluded that the scratch method is more reliable than the intradermal method. They stated further that no patients were encountered who gave definitely positive reactions with the intradermal method and negative reactions with the scratch method. For this intradermal and scratch testing, Peshkin and Fineman used a solution of pollen containing .01 mgm. N per cc., weaker solutions than were employed in our series.

Fineman had stated earlier that the scratch test would give as good results as the intradermal test if used in stronger solutions. Such solutions he felt, should be from 30 to 500 times as strong as those which were required to give results by the intradermal method.

Rackemann[7] says, "The intradermal method is far more delicate and we frequently see patients who react well to the intradermal method but not at all to the cutaneous method. And unless the intradermal method is available, these reactions will be missed."

The group which we have studied is composed entirely of children under 12 years of age. Twenty-two of the cases had hay fever and seventy-one had asthma. The work was limited to a small group of pollens. The patients showed clinical manifestations of, or had a history consistent with, hay fever or asthma. Difficulty was encountered in limiting the asthma group to those suffering from pollen disease, since many of the cases of asthma in children are dependent upon food proteins or animal emanations in addition to pollens. Owing to sensitivity to the food or animal antigens, attacks may occur throughout the year, with perhaps no greater frequency in the summer months. Consequently pollen asthma in its early stages is difficult to recognize; for these reasons the asthma cases will be considered in two groups—one, the whole series without selection, the other, a smaller group of definite pollen asthmas.

The series of hay fever cases represent an unselected group, all apparently due to pollen antigens.

The scratch tests were performed on the forearm using a 1-100 solution of the antigen prepared according to Coca's[8] method. The intradermal tests were done on the outer aspect of the upper arm using a 1-1000 solution of the antigen, also prepared according to Coca's method. In the intradermal tests .02 cc. were injected intradermally and the readings were made in from 15 to 20 minutes. An injection of the solvent was made in each case, and was used as a control. Any wheal or erythema which was definitely larger than the control was considered positive. The positive tests were well defined and but little difficulty was encountered from traumatic reactions.

The pollens chosen were red top, orchard grass, timothy, and ragweed.

There were 93 cases in the entire series, including both asthma and hay fever. Forty-two (45%) were positive to the scratch tests, and were consequently not tested intradermally. Forty cases (43%) were negative to the scratch test and were positive by the intradermal test. Eleven were negative by both methods. Of the entire group 88 per cent gave positive tests.

Of the 22 cases of hay fever, 20 were *positive* and but two were *negative* to the scratch test. These two proved positive by the intradermal method.

Of the 71 cases of asthma, 22 were positive to scratch tests; of the remaining 49 cases, 38 were positive to the intradermal test; 11 were negative to both tests.

Thus the hay fever cases show 100 per cent positive tests, over 90 per cent being positive by the cutaneous or scratch method.

Among the asthmatic children the scratch test from pollens was positive in only 30 per cent whereas this increased to 87 per cent when the intradermal method was used.

The cause for the marked difference between asthma and hay fever as regards the response to the skin test is an interesting subject for speculation. It occurred to us that this difference might be due to the fact that hay fever in children is usually a pure pollen disease while much of the asthma is due to other factors, either food or animal emanations, even though pollens play a part.

The question arose as to whether the results of skin testing depend upon the amount of sensitivity as shown by the clinical manifestation of the patient. In other words, would the definite and marked pollen asthma be more apt to give positive skin tests than the potential pollen asthmas[7]?

To determine this, we reviewed the series of asthmas and selected 22 cases which were unmistakably pollen asthma and were accompanied by a very definite exacerbation of symptoms during the pollen season. Sixteen, or 63 per cent, of these cases showed a negative skin test and a positive intradermal test; six, or 27 per cent, showed a positive scratch test.

The use of the intradermal test in this group increased the percentage of positive tests from 27 per cent, as given by the scratch method, to 90 per cent.

Such a well-defined group of severe pollen asthmas offers a fairer comparison with the hay fever group than the unselected series mentioned earlier in the paper, but the results were not markedly different.

CONCLUSIONS

In children with hay fever the cutaneous or scratch method gave a high percentage (91%) of positive reactions. The intradermal test is only slightly superior to the scratch test.

In children with asthma, however, scratch tests show a low percentage (30%) of positive results. The intradermal test brings the percentage of positive reactions much higher (87%).

The scratch test is reliable in the hay fever of children, but in the asthma of children it should be followed by the intradermal test in all cases where the scratch test is negative.

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# MEDICINE, ETHICS AND LAW*

BY FREDERIC JAY COTTON, M.D.†

IT is not likely that I have anything entirely novel to present to you, but, for your comfort of mind, it is at least not legal medicine in the book sense.

It is rather an attempt to tell you what we all should know, and have clearly in mind, as to our place in the community, our duties, our relations to colleagues, to certain public and quasi-public institutions, including insurers and such; and in addition, something as to our relation to the inescapable law, the courts to be revered, the law to be administered, and those also who lead us into the confusion of its administration, including attorneys. With these we must deal, and it is to be remembered that differences between the two professions in point of view and practice are often only the antagonism of two trades, trained under diverse environments.

The lawyer is an advocate. The doctor is not, or should not be.

Of most value in this discourse may well be the chance to deal with broader ethical problems regarding which our profession seems sadly confused over the way conditions have changed, over the mutations of our status in the community, with new people and new forces, as times change, and progress takes place.

Oddly enough this confusion seems to be quite as disturbing to the younger members of the profession as to those of us who might more naturally be expected not to welcome new things.

This you are to hear from one who has no especial claim to be heard, except a rather varied experience of doctors and of practice, of hospitals, of compensation medical problems from several angles, of postwar problems, both as to surgical reconstruction and administration, of insurance contacts, and in the courts in relation to routine testimony, actions for tort, medical experts, and malpractice suits of his own and of others.

To begin with, what is our professional status? The doctor is no longer what he was or fancied himself to be, a figure of dignity, infallible in judgment and pronouncement, a being set somewhat apart from others. A good deal of this never was so, a good deal of it was the assumption of a "professional" status that even our friends the clergy can no longer "get away with". But the real changes are enough to concern us, particularly as far as they are due to our fault. There is no need for serious concern in spite of all the noise we hear, because there may be here or there a public clinic or a research foundation that might get a case of ours, but there is need for much concern over the changed status of the profession in the community, and the loss of influence, due in part to our neglect to adapt ourselves to changes in progress.

In former days the doctor had his practice, kept it, lived and died with it. Patients did shift and *doctors did squabble*, of course, but the professional and social standing of the doctor was essentially stable.

Then came the newer breed of specialists, taking, it is to be feared, some cases not referred by the family doctor, but more especially raising standards of technical treatment a bit uncomfortably, till it has gotten to a point where some men have felt themselves mere distributing stations on the way to the specialist.

Worst of all *his* patients were no longer the doctor's property as he had always felt them to be, and after the specialist was done, they

*George W. Gay lecture for 1932, delivered at the Harvard Medical School.

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didn't always come back; if they came back, the doctor felt himself a little smaller, and fancied that their reliance on him had subtly changed.

The hospitals have greatly multiplied, and the "ins" and "outs" of the staff jar on one another often enough; the hospital is often tactless as to relations with the sensitive practitioner. Too often there was and is no coöperation in the training of one another.

Even today hospitals as centres of postgraduate education (not necessarily formal) for practitioners are very imperfectly utilized; while on the other hand the hospital fails to learn what it should from the doctor about the case sent in or to utilize him for the after-care, in the interest of both sides as well as the patient.

The whole relation of hospitals to outside practice is worth considering, and especially just now when economic conditions enter so largely into the mutual relations.

Generalizations are difficult, for we have in this country a number of diverse types of hospitals, but broadly speaking, the hospitals of the metropolitan type have two functions, the furnishing of a type of care not practicable outside, often closely bound up with research work, and, secondly, the care of the poor, who cannot afford the cost of ultra-modern standards, even if they can afford anything at all.

Everything is to be said for the closest possible relation of the outside doctor and the hospital. Much of the fault is in lack of understanding on the part of the doctor of the necessary routine organization, of the deputing of work to internes whose interest and outlook are purely institutional and can hardly be wider than that.

If one stops to think of it, the attitude of an interne toward the "local" M.D. is amusing and youthful rather than a subject for serious concern, and the "L.M.D." should take it that way.

Beyond this, however, the hospital is subject to the great vice of big organizations; the urge to make itself bigger. Altogether apart from the question whether bigger means better, this tendency is in need of check.

It seems to some of us that if there is a threat to the practice of medicine, it is not that of State Medicine but of Hospital Medicine.

In these days of poverty this tendency to absorb everything is in abeyance, but if and when better times come, there will be the same tendency to reach out for patients and to reach out for philanthropic dollars to run inflated institutions. This is a real threat, and no final answer is at hand.

Certainly, however, closer coöperation of the hospital and the medical community is going to help, if we can accomplish this. Contact of the outside doctor with what the hospital has and he has not, and on the hospital side, the effective contact with the doctor to whom the case goes on discharge will be brought about. If we can bring this about much may be accomplished that will postpone the hospital menace, at least pending some really satisfactory solution of the problem, perhaps in the expansion of hospitals as "medical centres."

As a hospital surgeon of years it seems to your speaker that, if there were decent coöperation, the local doctor could care much better for many cases on discharge than can any O. P. D. clinic.

A long experience with large hospital out-patient clinics leaves one doubting if they are, on the whole, desirable places for convalescent care. Theoretically, of course, they should be.

None of this applies, of course, to hospitals of the community type, places where the practitioner does his own work or works with colleagues.

The problems here are essentially those of maintaining an efficient unit organization in smooth working order, of sufficient and open records, and of efficient follow-up (both these last are often rather weak points), and of maintaining a standard high enough to keep patients in the home town.

There is usually no recognized out-patient problem here, but a hospital does not have to become very large before transfer of responsibility for a patient may result in neglect of after-care or inefficient supervision, even without an out-patient department.

The now great and vastly useful research institutions have rendered the game more complicated, and worse yet, have let the doctor feel that he is ignored. Help in this must come from the institutions; as education modifies all of us, so too, they may gain in breadth of vision.

It is inevitable that a good research worker becomes highly specialized in any line in which he excels, and tends to regard patients as specimens.

This perhaps accounts for some of that unpopularity, occasionally showing itself when pure research does not show results clinically.

These investigators, living wholly apart from community conditions, necessarily ignore them and ignore us, at times, and perhaps ignore the human element in patients.

There should be a director, a clinician, to keep community relations quite normal.

It should be recognized also that research, important as it is, cannot be expected to produce results instantly, if ever. Most research must, in the nature of things, be sterile. It is amply worth it for the ten per cent or whatever per cent of practical progress is acquired, apart from its value to "*pure*" science.

It is to be desired, sometimes, that the passion for research should be tempered by that deep sense of humor which is needful to us, in order that we may appreciate our place in the world.

Public health agencies, necessarily centralizing certain work for efficiency, have become more active, and the medical man was, and is, prone to moan over the loss of a patient rather than to consider not only public health, but his own opportunity to be helped out with work that he, working alone, could never accomplish.

There has been with us lately a very unfortunate misunderstanding of this situation by the profession, a great deal of lamentation over alleged encroachments of "State Medicine."

As to the poor, the outside doctor is helped by the hospital and enabled to see that his patient is cared for. He should not regard the public hospital as a dumping ground as is sometimes done, but should endeavor to keep track of what is done and be ready to resume the care of the case on discharge. There is some neglect of this proper attitude.

Remember that the patient who "belongs" to no one, should be in closest *personal* relation to his own doctor.

When you send a patient to the hospital, don't simply dump him at the gate.

If you know the staff, and you should, make your arrangements with the service chief, or with the superintendent's office, and furnish all the data you have. This will help the patient and the hospital staff and your relations with both to an extent that is worth some trouble.

No one wants State Medicine and we're not going to see it thrive in our time except in veterans', tuberculosis and insane hospitals, but there is no doubt that it is wise to watch for encroachments.

It is not wise to criticize the establishment of diagnostic examinations, even diagnostic clinics, for with proper coöperation these definitely help the doctor who sends the specimen or a case and the patient as well.

The complications that beset the doctor and the family in the last stages of cancer, for example, especially with the poor, may be founded on the fact that no one really wants to take such cases. The difficulty at the Pondville Cancer Hospital, for instance, is in discharging the cases, and a recent visit of inspection led only to surprise that so many were returned to the doctors' care after the hospital had done what it could.

A similar check-up as to surgical tuberculosis at Lakeville led to like conclusions.

If this is State Medicine it is good. Let us be thankful that we have a State Department of Health to do the things we cannot do for the indigent, and leave us to work at other problems in which we can be efficient. This means not "cussing" but utilizing the State Department.

As a matter of fact the medical profession and the State Society have come to realize this, somewhat late, and are approaching a full coöperation with the State Department.

Remember, by the way, that there are duly constituted State and City Boards which are devoted, at least *dedicated*, to the prevention of disease and the cure of the sick. Their power should be, and is, of value.

It ill becomes us to oppose them in this rôle, and by the same token, it is going to make us look cheap and greatly lessen public confidence in us, if we are silly enough to do so, even if something does happen to irritate us.

Social agencies of all sorts have flourished and tackled health problems, often ignoring the doctor, exploiting themselves in a publicity forbidden to us, and often very irritating in their assumed knowledge, and often unauthorized and unneeded activities. These must be borne with, together with the half education of the public for which they bear a part of the responsibility. Half education in all things, broad and shallow, is almost universal in this day.

This half education has fostered criticism of the doctor, has done real harm, in that in its train comes a demand for what no doctor, and no institution, can furnish in the present stage of knowledge. Save by raising standards of medical training and practice, and by producing better results there is nothing to do about this angle of the matter.

Do not forget that these social agencies, from the cancer commission to womens' clubs, have done vast good and that their broad interest is just what we are working for, and that opposition is useless and damaging. Better work with them!

Only by education, first of all of the agencies themselves, and by coöperation with their effort, —by striving for real education, not half education of the masses, can our plight be helped.

It has become very evident of late years that, while personal publicity is not desirable (altogether apart from its being forbidden), an increased measure of publicity of medical affairs by medical men must be carried on. Something is going to be published; it is our affair to see that it is reasonably intelligible and accurate.

It may be radio talks or addresses to lay meetings. These are useful. The publishing of medical facts about disease, prevention and treatment and results must go on somehow, and in the end greatly helps the practitioner.

Look at the early cases of suspected malignant disease or tuberculosis now treated that never would have seen a doctor formerly till they were about hopeless. And they have come to the Doctor, oftener probably than to any clinic, to get his answer as to what they have been told regarding the diagnosis and treatment.

There is a misapprehension that one would like to combat. We are very prone to criticize the press for its medical news. The writer, acting as representative for one of the national societies, not long ago had the duty of seeing much of our newspaper offices, many reporters, and

it is a pleasure to record that they were fair and square, ready to publish anything of even approaching "news value" which is their criterion, and as interested as any man is likely to be in the other fellow's affairs.

There are two things to remember.

First, nobody, not even a doctor, cares for over-technical expositions.

Secondly, you are to make sure, preferably via the City Editor's office that you are not talking to a specialist in another field, maybe baseball. Your technical material means even less to him than his does to you.

If you can deliver, in any fashion that does not suggest personal advertisement, by speech or in writing, anything humanly interesting or important in your field—in such fashion as to be understood, it is going to be received and handled even through the press. The only question is how to give it. The only answer, seemingly, is that all ways are good, but the least good is that of academic short addresses by radio to those who want to be amused, not told things.

So it seems that our salvation lies in expanding, not combating publicity in health matters, and in so coöperating that we may lead, not follow.

Seemingly this situation is clearing itself gradually, as medical men understand it and conform to the general requirements.

Another thorn in the flesh is that of the irregulars or cults. Forget not that they have always been with us under one name or another, and always will be. And forget them. They do far less harm than low class medical schools. As we can maintain, and raise, the quality of work done by doctors, a lot of these things will attend to themselves without loss of regard and reward for us.

The broad lesson to be preached is that with nearly all these agencies, except the cults, the medical man can coöperate to some extent although he has not done so very much in the past.

Do not forget for a moment that they are, broadly speaking, beyond our control. Why rant about them? Why not coöperate with the specialist, who cannot be spared, choosing the proper type, of course? Why not keep en rapport with hospitals, get knowledge from them, use them for help with poor patients, and with the less poor to your own advantage? Why not keep up with research to some extent, to your own direct advantage? Why not utilize the centralized facilities furnished by the Department of Health? Why not work on with the social agencies so far as you can, since they are, after all, devoted in their own way to better health for the people as much as you are?

Quite obviously the loss of influence of the medical profession in our communities has been from the fact that they have stood aside—and objected, and the community, seeing many axes so treated, always suspects us of having our own to grind, and is therefore apt to minimize our non-personal interest in public health. It is largely for this reason that our legislatures pay little attention to us. Admitted! After all the doctor is really recognized in the community as a citizen of standing, of special knowledge, of character, a benefactor and friend if he will have it, less selfish than most other men, honestly devoted to his purpose of saving lives and health. Materially not too well taken care of, as a rule, he has opportunity to rise *by his own merits* to really high community standing and reasonable rewards. Not a bad status at all, one thinks, and just so far as we keep step with the march of time, and rely on our delivery of thought and work in a coöperative spirit, this status is going to be better.

Now to more concrete matters, our professional conduct toward our colleagues, patients and others, i.e., ethics. There is a great deal in this field obviously governed by common knowledge and common sense and not here to be reviewed.

The patient is a person who comes to a doctor as to one of especial skill in matters of disease and disability. In so coming, he assumes no responsibility save for his fee. He does not become the property of the doctor, and is under no obligation to take advice. He may change doctor or hospital at will. But all this is not a matter of what *we* should do.

If he comes to us he is entitled to the best we can give in advice and treatment, if he is accepted as a patient. And here arises a lot of trouble. Whom should we accept? Under what conditions? Frank emergencies speak for themselves, if there is no time to waste. Very rarely one must undertake treatment of unconscious patients without authorizations, but very rarely; under such circumstances especial care is in order. Nearly always the hospital ambulance is a better answer. Be not too hasty about emergency calls. Forget not that calling out the doctor to an unknown "emergency" has not rarely meant assault or kidnapping. Remember that casual accident cases in which you are called for convenience are rarely worth having. Many of us prefer not to have them. Remember that the only real emergency may be that he hasn't paid his own doctor and doesn't want to call him. Find out something about your emergencies, if you can; ready to serve, but not overanxious or too naïve.

Most important is our relation to other doctors. If the patient has discharged his doctor we have a right to take the case, but misrepresentation as to this is common, and there are many patients who have "shopped" around a long list of offices, and forget or deny the fact.

Specialists particularly may be caught in this difficulty, either because patients really want an unbiased opinion, or oftener because they

want to avoid payment to their own doctor; often they want to check up on him, and if one is not careful, one may easily foment damage suits.

Specialists are free to see cases seen by previous specialists. But, even so, they had better check up on the family doctor part of it. He may still be undischarged, but ignored. Cultivate, please, an acute sense of smell in this matter and be cautious, observing the courtesies.

The medical treatment of patients as such is not under discussion save as it has a place in consultations. In older days doctors consulted with one another and still do, and should do so more generally, and that does not mean necessarily that many cases require a specialist. Two heads equally good may be more than twice as good as one. It is the mark of broad-minded common sense, and to the patient's advantage, to utilize the opportunity for consultations freely to the advantage of the original medical attendant, in no sense derogatory to his skill or knowledge, or so regarded by the patient if both doctors observe the rules of good behavior. At the present time the consultant who is called in is apt to be a "specialist." To the attendant doctor one may truly advise frequent consultations, to the consultant called in, some words of warning to the effect that he be not misled into considering himself superior, or privileged above rules, as not rarely happens also with successful older men although not always "specialists". From the patient's point of view, he does not belong to anyone. From our point of view if we are called to consult we must be careful to recognize that the patient belongs to the man who calls us in, i.e., his own doctor. Particularly important if a patient comes direct to a consultant. If he has a doctor, get in touch with said doctor who may be able to tell you a lot of useful things. Do not assume that the doctor sent him. Call the doctor up. Work with him. Always see that the patient returns to any doctor that sent him and as soon as this can be safely done, save in cases in which the medical attendant wishes the special consultant to "see the case through," *and says so*, preferably beforehand. In case of doubt have the patient check up with his own man always. Consultants and even private clinics have suffered heavily in reputation and success from the natural irritation of the man whose patient has been "stolen," never to be seen again. Why should he repeat the experience?

Equally important, never "take over" a case seen in consultation, unless at the express request of the "local man". Patients often want to desert their doctor for the "eminent specialist from the city". Never! if you have sense. If the patient insists and tracks you down, either refuse or refer him back to the doctor. If you really believe there should be a change, it is proper to suggest that it is within the patient's rights, but do not let him change to *you*, particularly if he is a hospital case. He can change hospitals if he likes, and most of us find it practically impossible to avoid seeing patients who definitely wish us in consultation and cannot have us in the hospital of their choice.

The situation may be that of an incompetent hospital, or a better hospital that has gone a little daft on the matter of the closed staff (misinterpreting entirely the effort at hospital standardization that started the American College of Surgeons on the matter of staff organization) or the chief of service may be indifferent or perhaps the patient is in the hands of internes only. In such cases the patient's friends usually act. Generally speaking, you are going to be just as well off without stepping into doubtful situations of this sort and keeping well out of any arrangements that the patient may make. By the way, it is your right and privilege not to accept any consultation, or to decline to consult in any hospital, and you are under no obligation to state reasons. As to hospitals, remember that the institution even if the best, substantially ignores outsiders often in rather needless discourtesy. The real problem here is that of the patient who wishes a given consultant and cannot get at the staff doctor in whose charge he is supposed to be. If friends come to you, send them to the staff doctor. In practice if you know him, or, if in normal relation with hospitals in your district, can find out who he is, it is quite all right to call him up and recite the facts. Any call must come from him; if there is no conference the patient may decide as to his stay in the hospital. It is not up to you.

Another problem is that of hospital outpatients that drift to your office for advice. In such cases one feels less necessity of being finicky about ethics, especially since quite often no discoverable staff doctor seems to be responsible for the patient or interested enough to know about him. This applies to many O. P. Departments where no one person carries any responsibility or even knowledge as to individual patients. With one hospital from which frequently come inquiring patients of this sort, a personal arrangement has been made by our office by which they are seen, and the head of the service called up, the case checked and usually returned to the hospital reassured. Such an arrangement can hardly be other than personal.

This is possible in more cases than now, perhaps. The drawback is that it means a lot of effort, which we all properly dislike.

Today with compensation laws in force, one has insurance companies to deal with. They have certain rights. In this state the patient has free choice of his physician, but the insurer is responsible for payment of this physician for two weeks only, in routine cases, the patient not usually being able to meet his own charges. The

most progressive insurance companies would rather see him in the hands of a good doctor than in a public hospital and are willing to pay bills beyond this time limit, if they know that you are competent. And this despite the fact that many insurance companies are ready and try to furnish treatment from the start; which may or may not be in the interest of the patient. In practice, if you will take the trouble to be decent to the insuring companies they are apt to assume responsibility and let you go ahead with the case, retaining some check on progress, naturally.

Their reluctance to pay for indifferent or inefficient service or for service by men unknown to them is, after all, only the dislike for paying for a "dead-horse" common to all of us.

One of the practical points is that they are entitled to reports, which often are not forthcoming or not adequately made.

If you have a compensation case, report it to the company, and you should know some of the agents in your district. Use the telephone, *with the patient's consent*, and follow with a written report. You are then much more likely to have the case throughout, and avoid squabbles about bills. Don't forget that the companies are in business, that they do not assume high competence in the doctors unknown to them, and, though one hates to say so, that they have been "milked" pretty hard by some few of our profession. On the whole, they are decent to deal with, not ready to pay high fees, but to be relied on for payment you'd rarely get from the patient himself. There are a few "hard-boiled" companies and hard-boiled agents. If you strike one, call up the Accident Board secretary for information and advice.

The official public health agencies may interfere with practice and are subject to no rules of ours, but they are usually helpful; if you will get in touch with them they are likely to be ready to work with you for the patient.

Today there are many "social" agencies immune to any rules of conduct and sometimes their agents seem not averse to "butting in" where we think they are not needed advising when they are not competent. They are, too often, tactless. The main trouble with them is that they are self-sufficient, often not oriented in life's affairs, and fail to understand practical application of theories which may be beneficial to the patient. The principal trouble in dealing with them is that one wastes so much time.

So far the discussion of ethics has been in relation to conduct. There is also a feature of ethics that is to be observed as a safeguard to ourselves. Obviously we must attend to our reporting duties, births, contagious cases, etc. Deaths are obviously reportable, and in regard to this in states like Massachusetts it is well to be in direct touch with the medical examiner and report personally as to suspicious cases not dead, that may possibly come within the field of investigation. This, of course, often involves the desirability of consultation in such cases. The most important of such cases is that of abortion or suspected abortion. Call up the medical examiner and tell him that you have such a case, seen with Dr. —— as consultant, and with his approval you may then go ahead and treat the case as best you can without personal worry.

A word as to records, not only in such cases, but in all cases. In no single regard is the average doctor, or any doctor, so negligent as in his records. The difficulty presented, lack of time, lack of clerical assistance, may be fully granted, but the fact remains. And even a brief experience with courts substantiates this very clearly. Incidentally, lack of records or crude records are an important reason for the low estimate set on doctor's testimony in our courts. We do not, most of us, keep good enough records to go on over long periods with even the proper *care* of patients to say nothing of presentable records. It is to be feared that the standard is like that of the hospitals a few years ago. They have largely reformed, so must we, little as anyone likes this sort of work.

Another matter of self-protection is avoiding, or getting out, if need be, of "phony" cases. This applies not only to automobile cases. Be very chary of talking over cases with anybody except the patient and his immediate family. You have no right to, of course, but it is very easy to be careless. Talk to no accident companies, nor report to them without authorization. Talk to no attorneys without written authorization from the patient. Verbal permission may easily be denied, or the question of misunderstanding raised. "'No spik English."

Be sure to get ether and operation permits signed beforehand in case of minors or irresponsibles.

In discussing treatment, make no promises which you cannot honestly fulfill, nor say anything to give color to an assertion that you promised.

In regard to operations, the scheme of having a patient sign away his rights as to the result is legally invalid and may be a boomerang.

Signature of a paper stating the understanding of the kind of treatment proposed, the risks involved, the necessary limitations in case of success, even the chance of partial failure, seems to have no argument against it, though rarely used. It would seem wise as minimizing the chance of honest misunderstanding. All verbal statements of this sort should be before witnesses, and signed statements in general are all the better for a witness signature, perhaps. In case of dissatisfaction or criticism not necessarily hostile, suggest a consultant, not necessarily or always wisely your own habitual standby,

but anyone chosen by the patient from a list agreed on as competent and fair. Often complaints are the result of at least careless criticism by other doctors; avoid, therefore, any criticism of others. Avoid, even refuse, disputes with patients, use reason even with the unreasonable complainant.

Malpractice suits here and there are hardly to be avoided by the really active worker, however careful and skillful. If you are sued, remember it is the common lot. The man who is never sued is the man without a practice, and no one, at least in the profession, is going to criticize you on the mere ground that suit is brought.

We recognize that while the plumber's job is not expected to be perfect, the medical man is seemingly expected, not only to turn in perfect scores, but to perform miracles.

Moreover, suits are often brought over trivialities, magnified by neighborhood gossip, and, in very many cases, represent a mere counter move to the doctor's presentation of his bill, or, maybe, speculations on the part of a needy attorney. Therefore, while irritation is inevitable, be not unduly concerned; above all do not consider it one of civilization's calamities that a virtuous person like yourself should be so attacked and brought to court. Of course, mainly to prevent the endless worry over details in preparation of the defence, you will carry insurance. Carry enough to cover the chance of a compromise sort of verdict by a jury. This may happen through no fault of yours though it is unlikely, if the plaintiff is plaintive and before a sympathetic jury. In case of suit, or of suggested suit or even trouble, notify the company within 24 hours. Give the attorney your story, all the data you have. Locate and put at the attorney's service any possibly useful witnesses. Then forget it, until further notice. This business of having medical men worry themselves to death over these suits is lamentable and a bit ridiculous, and not justified by the proportion of suits that come to court, particularly not by the small number of verdicts against doctors who have done their best. One word more. There are suits that had better be settled as difficult to defend, altogether apart from actual negligence, like sponge-in-the-belly suits, burns, etc., but in general set your face against proposed settlements. It may be well to have the suit out of the way, but settlements breed suits, in turn. It may be suspected that many suits are brought with no idea of ever going to court, but as a means of getting enough money from *someone* to pay costs of entry and the overhead of an attorney's office. Briefly as to your conduct on the stand in a case against you. You will be honest, of course, but for goodness' sake be honest briefly. Tell the story but do not wander off into explanations. Explanations sound like apologies to the other side and greatly disadvantage you. They are what cross-examination is hung on. Be careful not to be hostile, on the outside, at least, or "touchy".

Be very careful not to vaunt your knowledge and standing, that interests no one, and lays you open to attack.

Try so far as may be to make your evidence tell the story of the case, and definitely nothing else.

In malpractice cases brought against others than yourself, the situation is different. You are qualifying as an expert. Let the attorney go ahead and give, through you, reasons why you should be heard. Stress in your testimony the conduct of the actual case, considered in relation to average treatment by a qualified man in the given community or similar communities. Be not led into theories or books. What might have been and what may occur later is not the present concern, and fine spun disabilities or improbable later discomforts, or even possible unlikely actual disabilities are not the point at issue. Sheer away from them. This particular case only is on trial.

Considering the character of most suits and those suing, one may pardon the medical witness for coming nearer being a truth-telling partisan in these cases than in any other sort.

The other legal matters to be taken up have not the unwelcome personal element of the malpractice cases, but are concerned with cases in which the action is for damages, i.e., cases of tort. Perhaps you have treated the patient in ordinary course; this almost necessarily happens to everybody, and he wants your testimony as to his injuries and disabilities. There are some doctors, some good ones, whose dislike and dread of courts are such that they refuse or evade such duties; this evasion is possible, due to the fact that doctors are rarely served with subpoenas. This evasion strikes one not only as ludicrous but unfair except in the case of one well-known man who has repeatedly so "blown up" on the witness stand as to prove far worse than useless to his patient. It seems very definite that the patient has a moral right to call for our help in these circumstances. Without it his case would be prejudiced greatly. It is perfectly in order to arrange with patient or attorney as to fee, for expert questions are sure to be asked, and such testimony should be paid for. The loss of time involved, for one thing, is not inconsiderable. As an expert, one may demand reasonable arrangement for recompense before accepting.

Unconditional refusal argues either indifference or fear of going on the stand, neither very creditable to the doctor, but one may name conditions. Of course, the court, which is to say the plaintiff's lawyer, can issue a subpoena and drag the doctor in. Disregarding subpoenas is an exciting game some of us have indulged in, exciting because it really involves contempt of court. It is a game that should be only the

rare indulgence of a known "old hand" who thinks he is being dragged into an unworthy or frankly crooked case, or a case he knows nothing about. Once on the stand you are called on to testify, not only as to fact, but also to answer questions as an expert, and, at least hereabouts, the court will not sustain your objection, and you get only $2.00, unless you have a previous agreement.

Of necessity a defence reaction has arisen, dating back many years to a time when hospital surgeons were constantly harassed. This was over cases seen in hospital routine, at a time when hospitals were worse than sketchy in many details, particularly records. The doctor was supposed to look up his notes which he didn't have, or interpret records which recorded little, on a case of perhaps three years previously. Unless he had recently reëxamined the patient, his memory at best could rarely be vivid, and such hospital surgeons were apt to develop what justified the suspicion of a real amnesia as to the case. That did not help, but there was little to do about it, and the attorney got in the way of previously consulting the doctor, giving him a real chance to refresh his memory by reëxamination of the patient, not merely a forgotten number in a ward.

Therefore, it is seemingly considered not only discourteous, but of no advantage to issue subpoenas to doctors, and it is not often done; certainly to those who are known to be accustomed to courts.

There are, however, many other ways in which you may find yourself on the way to court.

You may find a case, seen in all innocence, which claims later to have been in an auto accident. There is much to be said for suspecting such cases at the start and keeping out of the way, or if you can contrive it, getting out of the way, particularly here in Massachusetts, because of the workings of our Compulsory Insurance Law compensating personal injury.

There are plenty of real automobile injuries, obviously, to which this does not apply, for questions of liability do not concern us. There is also a group of cases in which results of injuries are exaggerated or convalescence prolonged, for example, like the back strains in which it is almost always impossible for the doctor to be positive on the negative side, whatever his convictions may be. Obviously, there are also a few personal injury claims faked to cover property damage to machines, pre-arranged accidents, and accidents that never happened. You are better out of these, but if you are in, be most cautious and let it not appear or be suspected that you are deviating from or going beyond your knowledge of facts, and keep close to what actual objective signs show on examination.

The patient may be suing the Elevated. Your testimony may be of importance of course, given with something less of suspicion on your part. You may be called on to appear for the plaintiff before the Industrial Accident Board which is in effect a court, though less technical as to law, or before the Federal Employees' Commission which handles the Admiralty and waterfront cases and federal employees' claims.

So much for cases you've had in hand for treatment, or cases sent to you (including Accident Board cases) for impartial examination.

An independent attorney may ask you to examine a plaintiff with a view to reporting conditions to him and with probable later appearance in court; here, of course, as expert.

Go ahead and take this, if you want it, or refuse it. There is no obligation involved. No caution is necessary except that when in doubt one verifies the authority of the attorney as the patient's counsel. On the other hand, you may be called for the defendant by an insurer's office, or attorney. Here there comes in something else. You may quite rightly do this, but may examine only with the plaintiff's consent, which means that of his attorney. If practicable (always in fact unless by mutual understanding) this examination should be made with the plaintiff's doctor. This is a matter of courtesy, but also a safeguard against allegations of unfair questions that may come up later. Remember that the patient or his attorney may within his rights exclude any questions that are not directly necessary in order to make an adequate examination. There is nothing to get irritated about if he does.

Sometimes the plaintiff's attorney wants to be present. Usually he is a nuisance to have around, but there is no reason for you to object, nor is there any objection to your having your own office force present or within hearing. If you are asked to give expert testimony in a case you have not seen, based on available testimony, or transcript, or on medical records, it is perfectly proper to appear. In all these ways you may get into court on the defendant's side. In such case, examine thoroughly without hostility or any preconceived ideas. Take into account such history as is volunteered or given in answer. Keep very clear of questions about the accident, except enough to enable you to understand the injury. The liability end is none of your concern, and a less proper occupation for a doctor than that of adjuster for a company or of attorney's errand boy can hardly be imagined. This extra-medical activity may be hinted at or requested, though rarely in decent circles of late years. Do not forget that some experts have nearly ruined themselves by overstepping in this partisan fashion. Desires of the defending attorney, just as desires of a plaintiff patient, should have no place in your examination or opinion. Your concern is purely with the medical end of it.

If you report to an attorney that you find nothing or little and are not likely to be of use

to him, that is not very unusual, though perhaps not so usual as it might well be. You will probably get thanks and a check, and that is that.

You report to the attorney, and a full report does not mean a profuse one. Get all the essential facts in, briefly. Not too technical language. No hypotheses. No guesses. Then comes the place for a definitely worded concise opinion, on which the lawyer or agent can base a clear idea of where he stands. A foggy sort of report is nearly useless; it may be worse than useless. Remember, if you go to court, all the sins of your poor or vague report come out to help the opposing attorney.

Now, as to court procedure. Your qualifications as a doctor, your qualifications and limitations as an expert, have to be given or at any rate asked for. Do not let your attorney overqualify you. One has seen this lead to embarrassment on cross-examination. Then, you are first called on for just your story, brought out by the attorney who called you, and called to answer questions, usually direct and simple. Do not show yourself suggestible in the sense of adding details of disability. The attorney may want these. He may have them if in moderation, but your full opinion *should* have been brought out promptly and early, and needs no embroidering.

Then for the cross-examination, so dreaded by most doctors.

This time the other lawyer is there to minimize your testimony, and, being human, isn't going to overlook a chance of tripping you up.

He has the seemingly unfair advantage that he may ask any question he likes, and you can only answer, and he will usually attempt to prevent any explanation or qualification of your answer.

Your attorney can protect you from unfair questioning to an extent, and in case a question is unanswerable or you just don't know the answer, an appeal to his honor on the bench will usually straighten you out.

There is no way of stopping a protest at misquotation of what you have said or written, and if perchance you have written a book you are pretty likely to have it misquoted to you, or at least passages from it distorted in meaning, taken out from their context. If so, object! For other people's sins of writing you are not responsible, though you may be asked if you agree. Nor are you required, even as expert, to have read all the literature on a subject, or to know all about anything. If you don't know, say so. It does no harm.

Remember that such an answer as you may make in protest or qualification may often be "excluded", but loses nothing thereby in effectiveness with court or jury. Do not let yourself in for defensive sparring that can be avoided. Do not hesitate to admit facts. There is nothing worse than to be driven gradually into admission of an actual fact, or to delay recognition of a stated reasonable possibility. You may in the latter case admit *without endorsing.*

To go back to your defenses. First, you have told a straight story, given an honest opinion, and if this has been properly given, it carries weight.

Secondly, the jury knows the purposes of cross-examination, and discounts a lot of it, as purely partisan. You should have impressed them by this time as not personally, or in opinion, partisan at all.

Thirdly, and most important, the lawyer cross-examining may ask all the questions, but that isn't all.

He runs easily out of his own field into one in which his knowledge is very slight, as a rule, and he knows it. It is your field!

He may ask questions, but what questions shall he ask, for he knows not what answer shall be slammed back at him.

There is nothing more satisfying than an opportunity to lead him along to a point where you can declare his medical questions unanswerable because of his ignorance, and offer to help him.

There are countless excellent stories of cross-examination tilts, some of them in the doctor's favor.

One may be quoted—well-known. Dr. Joseph Collins, eminent neurologist of New York, had testified as to an examination; and was brought up by the attorney, sharply.

"Is it not true that such and such of the examination was medical, in no sense really neurological?" "Certainly." "But you, Dr. Collins, are not a medical practitioner." "Certainly not," answered Collins. "Now, to make it clear to his honor and the jury, may I ask if it is not the fact, Dr. Collins, that you are a neurologist, pure and simple?" "Perfectly pure, reasonably simple" was the lightning reply—swift as only Collins could make it.

And that was that!

It is a fact that certain men in Boston, at least, are so little defenceless that they have been unofficially labeled "dangerous".

Do not carry fear into court; caution but not fear.

Practice before accident boards and the like is very similar to our courts, but with a bit less regard for form, and I think more zeal to bring out the essential facts, more like an English court, but rules and cautions, as above, all obtain here too.

Now a word, and I'm done with the legal end. If you appear in court, especially as an expert, it is important that you be intelligent and know your stuff, and can deliver it, but vastly more important that you deserve a reputation for honesty. This is true if you want to continue at the work, for you are a more useful witness to either side if you have that reputation, and this fact is seemingly more and more recognized.

If you have the other reputation you are less valuable in court, your opinion far less thought

of outside, less sought in practice, less regarded or unregarded by your friends.

You are also going to find yourself a bit hard to live with.

One word more of courts. There is probably no training that better fits a man to think on his feet, to think compactly, to express himself exactly and convincingly, than the habit of occasional court testimony. The issue is serious and demands thought. Everything you say, most of what you think, is open to criticism and attack by able men, who see no professional halo about you. Very likely there is nothing you can do that gives you a better chance to find yourself and what you amount to. But take it sparingly. It is good training, but as a business a wretched one, from all points of view.

Matters of private business and personal affairs come next,—first the gaining of a practice and of a reputation, gaining, keeping and enlarging, running your affairs with least friction, least nagging worry, and gaining the reasonable remuneration which is all one expects.

After all, it is a profession, not a business, to which you have dedicated your lives.

None the less, modern conditions and pressure of work as well as economic pressure make money needful and make it essential that a man should plan his game, and become something of an administrator and business man.

No longer can we depend on thank offerings from the grateful cured patient, for these are not now the fashion, and unfortunately, perhaps, this is the day of automobiles and quartz lamps for practice and of modernized families, all of which we must pay for, whether we need them or not.

First in this planning comes the matter of postgraduate training. No man fresh from school is fit to begin practice. The years of training between school and practice are determining periods both from the point of view of personal growth and success.

First as to interneships. They are wisely required in some states. They should always be taken if they are to be had. The schools more and more, under pressure of special teaching, turn out men who know a great deal;—far and away more than we or our teachers learned about disease, precious little about human disease, less yet about diseased people. The interneship should correct this. A *general* interneship whether in medicine or surgery is of inestimable value. The country is full, and filling up even more, with specialists who may know their particular field, but are not doctors, and therefore not good or safe specialists.

This point is beginning to be discussed and verified a good deal and is really most important. So, too, in regard to the interne's position in smaller hospitals, so often "rotating" interneships. They sound attractive, learning something about everything, but fail in letting one learn soundly what good Dr. Herbert Burrell used to call "the natural history of disease" in any field. Watching the careers of the men who, years ago, flitted thus from flower to flower, suggests they didn't get far.

Do not be discouraged if you do not draw a place at one of the great metropolitan hospitals. There are very many hospitals in the second string that give just as good training, under men whom you come closer to; very commonly just as good men. The training and later opportunity of men trained in them seem just as good, and the prestige is amply sufficient. If it is in any way possible for you to do postgraduate work here or abroad, do it. Two or three years now should count enormously in the distance to which you may rise, and the urge to be working with the other fellows isn't so important. It is not wise to wait too long and to get "hospitalized", but a couple of years of delay will make little difference in the start in practice and much in your equipment. It may leave you handicapped as to getting hospital jobs, but you'll be enough better when you get them.

As to assistantships, perhaps particularly in surgery:

If you can get a chance with a really good man, particularly if he be a man that is willing to give something of the fruits of his experience, by all means take it.

How long you should stay depends on circumstances, but a year or two may well be so spent.

Such an opportunity may often be of more value after the interneship than postgraduate study, and has the advantage of not taking a man away from contact with the community or the hospitals he wants to work in, and often the assistant is on part time, and in position to break himself in gradually to a practice of his own.

Do not forget that the hospital graduate, or the postgraduate, is not really competent to tackle major surgery, for instance, and learning on patients by the method of trial and error, is neither quite satisfactory nor fair.

All this is, of course, beside the mark for men who mean to do essentially research work, health service, or other highly specialized endeavor.

It applies to those who hope and mean to be doctors, from the local practitioner up to the coming acknowledged heads of medicine, surgery and the specialties, who want to be useful citizens according to the best that is in them, to develop themselves for this reason and for their own personal growth, advancement, and (why not say it frankly?) position in life, and ultimate economic security and comfort. Medicine is a long game, but not so sterile and unrewarded as occasional articles in the journals suggest.

So, to business, if you are, with all the training you can get, determined to be "on your own", as most men are. Once graduated, trained and licensed, first the shingle, modest

but clear. Shall this be attached to house or office? For the moment it usually matters little. The first patient seems usually to blunder in, or is an adjacent accident case, or is sent in by a friend of yours, or owes the other doctor an inconvenient bill. How practice comes is as little understandable as the way of the fish in the sea, the serpent on a rock, etc. Somehow, practices do seem to come to nearly all doctors. If you are in general practice, once a tiny start is made, the sources of supply seem to depend on results, on the personality that suggests ability and stability, and no little on the way you treat patients and doctors personally. Much real useful energy is devoted to unnecessary talk with patients, who really want professional service as a rule rather than social amenities, and even more in squabbling openly or talking privately about rivals or colleagues.

A question is pertinent as to how far one should and may "play the social end" in view of the ban on direct advertising.

No inclusive answer can be given but don't forget that the man who seems to profit by being some sort of fetish in a something or other temple, or to succeed in general society, is apt to be the fellow who has personality enough to get along without all this, with more time for his job, and less strain on his wife. While golf clubs may be a place to increase one's practice, the certain thing is that they waste much of one's time.

Here, too, comes in the question of professional expenses and the standard of home living. Broadly speaking, it is to be doubted if this is as important as it seems. A battered Ford is to be avoided, but a Packard for the young leads to envy and even to backbiting.

Certainly extravagance, even on a small scale, is going to deceive no one, even in the office; one takes leave even to doubt whether ostentatious electrical equipment is as impressive professionally as is often thought, or as the salesman assures you.

Let the young doctor keep clearly in mind that he is selling himself, and not his scenery, and that it doesn't help to buy scenery at the expense of peace of mind and the ability to progress in professional training.

If a young man has some money, it has happened that somewhat obvious spending of it, even if legitimate in every way, tends under the social standards of this curious land of America to label him as not in earnest for practice, in fact an idler.

Now as to material equipment for the start! First, an office and a few tools. Secondly, an automobile—any kind. Thirdly, as soon as may be, a secretary, for today a doctor who amounts to anything cannot do clerical work satisfactorily under the demands of practice. It is probably not wise, surely not fair, to marry a girl and expect her to do it. Get a secretary, even a little one. Even if she is an office girl, call her a secretary. She'll be more interested and do more for what she gets, and may grow. Don't select somebody who can just keep a day book and answer the telephone, but somebody with brains, even lacking training.

Not a graduate of a secretarial school. You want someone to work for you, not an executive, and a doctor's work is not a business.

The best secretaries are apt to be those trained on the job.

Train her yourself. If you have to help her out with opportunities to learn typewriting and stenography, it is well worth while. This advice as to the secretary is theoretically bad, probably, but the plan works, and the other is apt not to. Pay her what she's worth as you can. It isn't a factory job, and you need her undivided interest.

As to assistants. Best use your friends as needed, in the early days, for an open agreed fee. Ten per cent of an operative fee is usual. Avoid, when you can, having the doctor who had the case, or your rival. None of us can always do this, but what between risking our cases from assistance by an untrained man and the chance of getting mixed up in an allegation of fee-splitting, we all like to be independent in this matter. This does not apply to friends and equals; but preserve independence even with them.

Now in the matter of fee-splitting; no one argues in its favor; it is denounced everywhere, and its name is anathema in society pledges and hospital rules, but it does go on, and, whatever you hear to the contrary, it is not decreasing; probably growing worse in the eastern part of the country, at least, despite the excellent work of the American College of Surgeons and other societies and many earnest men. Keep out of it!

It is an efficient way, unfortunately, of getting practice and money, but let no one think that it is not known who splits fees, even if it cannot be proved.

To be brutally material about it, save in certain few very corrupt communities, it probably doesn't pay in the end, even in money.

Moreover, suspicion of being mixed up in it has kept many men off hospital staffs and in bad odor, and in the near future the fee splitter is likely to be more than ever ostracized, even if he prospers.

It is not difficult to repulse the man who frankly wants 25 to 50 per cent of an operative fee, but there are many ways less bald than this, speciously dressed to appear hardly more than a friendly interchange, of which you had better beware. As has been said in another connection, cultivate discernment about such men and their apparent overzeal, lest your name, if not you, be entangled.

What has been said before about frank open dealing, avoidance of self-sufficiency in fact or manner, good will to and therefore from colleagues, will bear repetition in relation to the increase of practice as well as its safety. So also

as to criticism. Be very sure every criticism you make of doctor or institution is going to be repeated where it may not help the patient or even help you.

A word as to hospitals: Any chance to serve in any hospital is worth the time it takes—anyhow in the early years. Exception, hospitals of doubtful repute are to be avoided at any price. Isolation from hospital contacts often leads to dry rot, even if one does go to meetings. So much of what we know, so much of our ability to keep up with progress depends on what we get from our betters and equals in the profession.

What of insurance and other similar jobs? These are very desirable at first, and they give not only an occasional fee, but, more important, a training in thoroughness of physical examination, in promptness, and in a habit of records really kept; but unless you mean to fit into that game permanently, jobs of the sort cut ruthlessly into time because one is on call or must keep office hours. Broadly speaking, like nearly all part-time jobs, they are good pot-boilers, poor practice after the early years.

It is suggested that these talks cover also the business, the money end. Note that this has been postponed to the end, and be prepared to find it brief in proportion to the speaker's incompetence, on his own record, or even in theory. First let us agree that the doctor should be decently paid. Secondly, he must charge on a sliding scale, whether he will or no. Fee tables exist, mainly to be broken, in most communities. In every community there is a generally used fee for a "call" or for an office "visit". It is just as well to stay with this, at least in early years. For other services there may also be a vague community understanding of sorts. Failing this, charge what you think the patient would consider it worth, or maybe a little more, and not always what you think. Overcharging, except you have a real reputation, does *not* bring practice, and has ruined good men, even those with reputations and the personality that is supposed to get away with this sort of thing. Perhaps unfairly, the "well-to-do" are particularly sensitive when they think they are overcharged. Perhaps that is one reason why they are still "well-to-do"!

It is better to charge reasonably and get paid, than to reverse both ends of it. Remember that it is fair enough to shade charges in cases requiring many visits, or in industrial cases. Trades-union schedules, right enough in their place, have no place in our work. Do not be afraid to give your services but don't let other people cheapen them. Be careful to avoid overfrequent calls. Keep notes as well as a careful daybook. As a rule, itemize bills. Lump-sum the total if you like, but an itemized bill is not only something like the patient's right, but makes it hard for him to forget what service has been given him. Remember you'll get practically nothing unless you send bills. Send them regularly, or, except in long cases, it is all right to wait until the job is finished. Keep on sending them! The best rule is every month. Meet protests with reductions for shown inability to pay the full bill, but cautiously, and only for shown reasons. Anything more generous leads almost surely to a cheapening of your services. Follow up unpaid bills (usually after six months) with courteous reminders, perhaps growing, with repetition, a little more pressing.

Remember, however, that if the patient says he can't pay you now, that maybe he can't pay.

Most of us have that trouble in this year of grace 1932, and maybe the patient isn't a crook. Maybe he can pay a small part of it, as earnest of his intention. Be sure to credit *all* payments. The other way lie particularly unpleasant explanations. You will be advised to use this or that collector or agency. Get it clearly in mind that what you and your secretary can't get is to be marked off! Then play with the collectors.

Anything you get is "velvet." Besides, there is always the chance of the collector's high pressure methods making for you ardent unfriends. Suing on bills is not often a productive amusement, in money or time. Besides, a countersuit for malpractice is often the automatic return gesture.

On the other hand it is astonishing from time to time to find almost forgotten bills being paid. The percentage of money paid on bills varies, say from 40 to 90 per cent dependent, in part, on the community but more on the regular efficiency of your office.

If you get any money, use a bank, not a desk drawer. Have the account in your wife's name, if you like; there are good arguments for it. Use money to improve your ability to do your work, rather than in elaboration of surroundings. Any surplus may be invested in any security bought in full. Heaven forbid any advice on what to buy just now! One doesn't dare say "own your house" or at least say it very loudly. Above all things don't speculate. If there is one man who never should speculate, in stocks or anything, it is the doctor. His training in business is nothing. His outlook in money matters is tinged with the optimism of an altruistic profession. He has no time to look into data, usually no contact with men (if such do exist anywhere) who can advise him wisely. More doctors speculate than one would believe. One would be hard put to it to find those successful in the end, as a result of such speculation. None are known to the writer who ever kept stock-market winnings. It takes a newsboy to do that.

One more pitfall for doctors is endorsing notes, etc. Remember you are not in business, nor asking business favor, and should not put yourself even under the obligations that a man in business may hardly avoid.

What you are going to get is an interesting life.

Here's hoping besides, for long usefulness and reasonable rewards.

# CASE RECORDS
*of the*
# MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.
F. M. PAINTER, A.B., ASSISTANT EDITOR

## CASE 19111

## A CASE OF MARKED ANEMIA WITH JAUNDICE AND SPLENOMEGALY

SURGICAL AND MEDICAL DEPARTMENTS

PRESENTATION OF CASE

DR. DAVID A. YOUNG:* This is the case of a fifty-five year old white American widow who came to the Emergency Ward complaining of abdominal pain and yellow skin of two months' duration.

Her story varied. She insisted that she was perfectly well until the onset of the present illness. Then she had some jaundice and at the same time stabbing abdominal pain in the right and left upper quadrants, mostly in the left. The pain was so severe that she was irrational with it and therefore could not describe it very well. The jaundice had practically cleared up at the time of admission. She noticed she was getting pale. She had no vomiting and no neuromuscular or genito-urinary symptoms.

The past history is non-contributory except for rheumatism as a child.

When she entered the Emergency Ward for abdominal stasis she was in the Surgical ward for three or four days. It was decided that she had anemia and probably cirrhosis. The Hinton and Wassermann reports on the blood were both weakly positive. She was transferred to the Medical ward for further study.

On examination she was slightly obese. The skin was rather yellow. The lips were light colored and pale, the sclerae yellow. The fundi showed red and white spots, probably old and fresh hemorrhages. The heart was enlarged. There was a loud blowing systolic murmur and some question of a diastolic at one time. The abdomen was tender generally, especially so in the left upper quadrant. There was a large mass extending from the left costal margin halfway down to the umbilicus. No fluid was made out. The blood pressure was 130/50.

The temperature varied from 101° to 104°.

The urine was essentially negative except for a small amount of albumin and a few white cells on one or two occasions and a low specific gravity. The red cell count was 1,500,000 on admission, on transfer to the Medical ward 2,000,000. The white cell count varied from 2,500 to 5,000. The smear showed the cells well filled with hemoglobin with some tailed forms, microcytes and occasional macrocytes. The reticulocyte count varied. There were none when she was in the Surgical ward. In the Medical ward they were 7 per cent, then 5 per cent, and they varied up to 26 per cent, increasing as the red count went down. On one occasion there were 24 per cent reticulocytes; at that time the red count was 1,000,000 and the hemoglobin 40 per cent. At admission fragility did not go beyond 0.40 in saline. At entry the icteric index was 45, the van den Bergh 9.9.

Other laboratory data in the Medical ward showed a bleeding time of less than five minutes, a clotting time of 12 minutes. A liver function test showed 30 per cent retention. The icteric index on transfer was 40. The blood Hinton was repeated several times but on every occasion was weakly positive or positive. Gastric analysis showed no free acid. The van den Bergh and icteric index stayed rather high, with occasional exacerbations, at which times she had more pain in the abdomen. The stools were negative for guaiac on several occasions and showed more than the usual amount of bile. The urine was tested for urobilin, which was normal on one or two occasions and very much increased on some others.

X-ray when she first came in showed the heart generally enlarged, suggestive of rheumatic heart. The enlarged mass in the abdomen was considered to be spleen. A Graham test was negative. A barium enema was negative, a gastro-intestinal series negative.

We had a number of opinions from consultants. One suggested aleukemic leukemia, others congestion of the spleen, splenic anemia, splenomegaly, and mitral stenosis. There was quite a question as to whether she had pernicious anemia. It was finally decided that she was becoming more anemic all the time and that she had better be transfused and get into condition to have operation. Five transfusions were done, each time with improvement in the red count. There was increase in jaundice at this time and evidence of increase of bilirubin in the blood by all tests. She was given quinine iodobismuthate on two occasions. That was the only medication she received for lues. She went rather rapidly downhill and two months after admission developed bronchopneumonia and died.

*Recently senior interne on the East Medical service.

### CLINICAL DISCUSSION

A PHYSICIAN: Was the van den Bergh direct or indirect?

DR. YOUNG: It was direct.

DR. CHESTER M. JONES: Were the fragility readings 0.28 to 0.40?

DR. YOUNG: The fragility readings at the first test in the Medical ward showed that

hemolysis began at 0.42 and was complete at 0.32. At the second test it began at 0.44 and was complete at 0.28.

DR. JONES: I am wondering whether she did not have an atypical hemolytic jaundice. That would be my diagnosis. I remember one or two cases about ten or twelve years ago with a somewhat similar picture,—anemia, jaundice, splenomegaly and positive Wassermann. The question was always raised as to whether syphilis could be the cause of the picture. No one was ever able to arrive at any conclusion. That was when Dr. Minot was here, and he and Dr. Cabot discussed it pro and con. Dr. Minot felt that occasionally syphilis could give a picture akin to this.

DR. YOUNG: She was discharged with a diagnosis of hemolytic jaundice.

DR. J. H. MEANS: My recollection is that the object was to try to get her into sufficiently good condition so that she could have her spleen out, but this was never accomplished. Is not that it?

DR. YOUNG: Yes.

CLINICAL DIAGNOSES (FROM HOSPITAL RECORD)

Acquired hemolytic jaundice.
Bronchopneumonia.

ANATOMIC DIAGNOSES

Severe anemia, possibly pernicious.
Marked hyperplasia of the bone marrow.
Moderate jaundice, possibly hemolytic.
Splenomegaly.
Splenic infarction.
Splenic rupture?
Old hemoperitoneum.
Cardiac hypertrophy, slight.
Arteriosclerosis, slight aortic, moderate renal.
Cholelithiasis.
Cervical polyp.

PATHOLOGIC DISCUSSION

DR. TRACY B. MALLORY: The autopsy here shows a few things of interest, although I do not think they tell us much more about the diagnosis.

The liver shows a fairly marked but apparently quite acute central necrosis. The central third to half of nearly every lobule shows degeneration of the cells with infiltration with polymorphonuclears. It hardly seems possible that she could have had this lesion very long. One would expect a complete degeneration in the liver cells with some degree of fibrosis. I think this necrosis is probably incident to her terminal sepsis rather than a very integral part of her disease.

DR. JONES: Were there any deposits of hemosiderin?

DR. MALLORY: Not very much in the liver.

The spleen was very much enlarged, 1200 grams, covered with infarcts, which is of interest in remembering her repeated attacks of epigastric pain. Here is one of the areas of infarction, a relatively acute one with hemorrhage and fibrin. In other portions of the spleen healed infarcts can be found. Here is an anemic infarct with complete necrosis of the tissue. The red cells have all been absorbed. There is an area of organization in the edge of an anemic infarct. Here is an area of complete scar formation. So that we have evidence of a fairly long series of successive infarctions in the spleen. The fact that the urobilin fluctuated a great deal may possibly be connected with that. There may well have been enough necrosis of the red cells and absorption in each of these infarcts to have shown in a more highly colored urine and transient increase of bilirubin in the serum.

The marrow from all the bones in the body showed marked hyperplasia. They did one biopsy from the sternum during life. This section is also from the sternum and shows an essentially similar picture postmortem. Here and there are lymph follicles which are not very abnormal and have nothing to do with the condition elsewhere. There is a very diffuse hyperplasia, a diminution in the number of fat cells and a very large increase in the number of marrow elements, both the erythroblastic and myelocytic series, although distinctly more marked in the red cell series. Hyperplasia was present also in the marrow of the long bones. This is from the tibia, and here the anaplasia, that is the reversion towards more primitive forms, is a little more marked than in the sternal marrow and the proportion of red cell elements is perhaps a little higher. The final section is from the femur, and shows exactly the same picture as the tibia.

DR. ARLIE V. BOCK: Did she have gall stones?

DR. MALLORY: She had a great many small pigment stones, not cholesterin stones. It was what one might expect in long continued, excessive hemolysis, more a mass of gravel than real stones.

DR. JONES: Why is this not atypical hemolytic jaundice?

DR. MALLORY: It seems to me that that diagnosis fits the picture best in this case. I do not think that the autopsy has really added anything to what we knew on the clinical side. I do not believe from the autopsy picture alone we could make that diagnosis, but all the autopsy findings are consistent with it and I think it is the best explanation of the clinical picture.

A PHYSICIAN: It probably would have been better to take a chance and take that spleen out. It seems as though that was the only thing on which one could have raised any hope of accomplishing anything.

DR. BOCK: She was seriously ill, with a white count of one thousand and a red count below

three million. To have taken the spleen out would have been a very precarious business.

A PHYSICIAN: Were the surgeons asked to take out her spleen?

DR. MEANS: Dr. Vincent writes, "I feel that this case may be atypical hemolytic jaundice, pernicious type, and should have the spleen removed. Before doing this a syphilitic source should be excluded so far as possible. Do not remove the spleen during an exacerbation. Prepare for operation by transfusion." That is what they attempted to do, but the attempt was never successful, so that she was never operated upon.

## CASE 19112

## AN UNUSUAL BLOOD DYSCRASIA

### MEDICAL DEPARTMENT

#### PRESENTATION OF CASE

DR. ALFRED KRANES:* This is the case of a sixty-one year old white married American farm superintendent who entered on the Medical service complaining of weakness of several months' duration.

Three months before admission, following a cold for which he stayed in bed for about a week, his usual strength did not return. He felt that he was unable to go back to work. Instead of getting stronger he found himself getting weaker and weaker. His appetite began to disappear and he ate practically nothing for a while. During the following month he lost ten or twelve pounds and began to have numbness and tingling of his hands and feet. He tried to do a little light work about the house, but even that taxed his strength so severely that he gave it up. Two months later he apparently got better, his appetite improved and he regained eight pounds of his lost weight. The numbness and tingling still persisted and troubled him a great deal. A month before admission he began to complain of sore mouth, not particularly his tongue but his hard and soft palate and his throat. His doctor prescribed a gargle, but this did not clear up the stomatitis. During the month preceding admission he continued to have soreness in his mouth and grew progressively weaker, losing his regained weight and strength. His color was pale for the first time since the onset. The marked pallor, numbness and tingling increased. He found he was able to do practically nothing. For the first time he noticed dyspnea on very slight exertion. He had rather vague pain throughout his chest, not well localized, also abdominal pain following certain foods. A week before admission he again saw his doctor, who made a diagnosis of anemia and told him to eat liver. He did this for a week, but his strength gradually disappeared. He was unable to do anything and was obliged to come to the hospital.

His past history was essentially negative except that he sustained a chest injury some years previously when he was supposed to have fractured some ribs and a clavicle.

His wife had had four pregnancies, three miscarriages, and one child who died in infancy of unknown cause.

On examination the patient was found to be very pale, with a sallow complexion but no real icterus. He had white hair and blue eyes. His tongue was smooth about the edges, but there was no real atrophy of the papillae. The eyegrounds showed numerous hemorrhages around the disks in both fundi and an occasional hemorrhage in the retinae; otherwise the vessels were normal. The heart except for a systolic murmur was negative. The lungs were clear. The abdomen was negative. The liver and spleen were not felt. Neurological examination was completely negative except for questionable diminished vibration sense in the legs.

The red blood cell count on entry was 1,200,000, the white cell count 5,900, and the hemoglobin 40 per cent. The blood examination was repeated the following day with practically the same results in the red and white counts; the hemoglobin done by the Sahli method was 20 per cent. The smear showed 6 per cent polymorphonuclears, 71 per cent lymphocytes, 19 per cent mononuclears, 3 per cent eosinophiles and 1 per cent basophiles. A second smear showed roughly the same proportions. It was described as follows: "The reds vary markedly in size, slightly in shape. Occasional polychromatophilia, also an occasional normoblast and megaloblast. Some reds are hyperchromic, others are achromic. Platelets reduced." The urine was negative.

Gastric analysis done the day after admission showed a moderate amount of free hydrochloric acid after fifteen minutes, 15 cubic centimeters at the end of an hour, 14 cubic centimeters after a half hour. All three specimens showed a positive guaiac.

On account of the peculiar blood findings we decided to make sure that he did not have carcinoma of the stomach. A gastro-intestinal x-ray series was negative. A Hinton was negative. The non-protein nitrogen was 52. The icteric index and the van den Bergh were normal. Blood cultures were sterile.

On admission the temperature was 100°. He ran a septic type of temperature varying during his stay in the ward from 100° to 103° preceding his death. The respirations were 25 with a terminal rise to 40. The pulse ranged between 120 and 90. The bleeding time was 11.5 minutes, the clotting time 3.5 minutes. The reticulocytes at entry were 1.3 per cent. Because of the peculiar blood findings the smears were all reviewed and a fair number of immature cells were found. The

*Assistant resident on the East Medical service.

exact nature could not be determined, but it was thought that they were myelocytes. Undoubted megaloblasts were seen; the red cells were normoblasts and megaloblasts.

Inasmuch as the diagnosis was still in doubt he was given liver extract intramuscularly and by mouth, as it did not seem wise to temporize. We were not overlooking anything. He lived only five days, so that we did not get a reticular response. A sternal biopsy was done, but we got no report until after death. On the third day in the ward small petechiae appeared over his body. He began to vomit material which showed a positive guaiac. Five days after admission he gradually went into coma and died.

### Clinical Discussion

Dr. Gerald Blake: When this man entered the hospital he showed a fairly characteristic picture of severe pernicious anemia. His story was consistent with that, and in a general way his blood findings were consistent with it. There seemed to be a high color index and few platelets. The white cells however were not what one would expect ordinarily with pernicious anemia. Then the finding of hydrochloric acid in the stomach made us wonder whether that was the diagnosis. He had been on liver fairly intensively for a week before he came in, but there was no evidence of response. That however was our working diagnosis during the first two days he was here. Then these larger numbers of myelocytes and megaloblasts appeared a day or two before death. He rapidly failed in spite of the forcing of liver treatment. Our diagnosis was then changed to aleukemic leukemia.

A Physician: I notice that the cell volume determination was done early in his stay here. It was relatively normal, which would almost absolutely rule out pernicious anemia.

Dr. Chester M. Jones: It is rather unusual for pernicious anemia with fever not to show slight jaundice too.

A Physician: The icteric index was eight.

Dr. Jones: One would expect it to be higher.

### Clinical diagnoses (from hospital record)

Aleukemic myelogenous leukemia.

### Anatomic diagnoses

Erythroblastic leukemia, possibly diffuse erythroblastoma, involving the bone marrow, the liver and the spleen.
Pulmonary emphysema.
Arteriosclerosis, moderate aortic and renal; slight coronary.

### Pathologic Discussion

Dr. Tracy B. Mallory: The autopsy on this man showed nothing in gross except an enlarged liver, a considerably enlarged spleen, weighing 700 grams, and a very hyperplastic bone marrow. Not only the vertebral, sternal and tibial marrows were red but the femoral and rib marrows also. In gross it was quite impossible to make a diagnosis. I do not know how much better off we are now. The conclusive diagnosis in this case rests entirely upon the identification of very immature blood cells, and the methods of identifying these early cells are so inadequate that it is very difficult to do it with certainty. I, personally, in reviewing the blood smears made during life came to a different conclusion. It seemed to me that the percentage of normoblasts was considerably higher than recorded and that a large number of immature cells were present. I was inclined to think that the majority of these were perhaps immature cells of the red cell series rather than the white. A few myelocytes were present and many more megaloblasts. It seemed to me that most of the evidence of hyperplasia was in the red cell series rather than in the white cell series.

I will show the slides. This is the blood smear. I do not believe that this power will show much except the fact that there are apparently no polymorphonuclears at all. A very considerable number of normoblasts are present. The small nucleus to the right of the pointer is a normoblast. We find every transition from normoblasts with a good red hemoglobin containing cytoplasm through to cells of nearly the same size but slightly larger, with less and less amounts of hemoglobin but more and more basophilic cytoplasm.

The sternal marrow from which biopsy was made during life but of which we were unable to get our sections through before the patient's death shows simply an extreme hyperplasia. There are no fat cells left at all. The entire space between the bony trabeculae is filled with marrow elements and even at this low power it is evident that they must be highly undifferentiated, rather large cells from the enormous proportion of nuclear material which you can see there. With the higher power it is possible to find in a great many areas small clusters of black nuclei which represent normoblasts. These are present in normal or even increased numbers. The vast majority of the cells are almost completely undifferentiated, with brown nuclei and blue cytoplasm. There are very few differentiated myelocytes. The immature cells and the normoblasts make up at least nine tenths of all the marrow elements. Again there seems to be evidence of transition from the immature cells to the normoblasts.

A section of the spleen shows very small splenic corpuscles. The entire pulp is filled with masses of the same immature cells that we saw in the bone marrow and also tremendous numbers of normoblasts. A few cells can be identified with the eosin methylene blue stain as myelocytes, and with the oxidase

stain it was possible to prove that there were a fair number of myelocytic elements present, but very small in proportion to the number of the cells which did not react with the oxidase.

In the liver a few small collections of cells were found such as this one, which consists of the same immature elements with an occasional normoblast. It is rather interesting that these collections of cells are all within the sinuses of the liver. When you have a myeloid infiltration of the liver it is usually more or less diffuse, with considerable involvement of the portal areas rather than small localized foci in the sinusoids. This latter arrangement is what one finds in the liver of a fetus of six to seven months, in the liver of children born with erythroblastic anemia. This slide is very suggestive of that condition rather than of a leukemic infiltration.

What name one is to give to this process is completely beyond me. We have a degree of marrow hyperplasia which exceeds anything I have ever seen. This hyperplasia is almost wholly in the erythroblastic rather than the myeloblastic series. A rather marked erythroblastic hyperplasia is characteristic of pernicious anemia, but if you compare these sections with a case of pernicious anemia the hyperplasia here is five or ten times more than you see in the active cases of pernicious anemia. With the two slides side by side one could not remotely conceive that this is pernicious anemia. It is a degree of hyperplasia that is so marked that one is strongly inclined to feel that it must be a neoplasm. The early stages of leukemia resemble merely a hyperplasia of the lymphocytic or myeloid elements. In the later stages of leukemia that hyperplasia becomes so tremendous that we assume neoplasm. It seems to me we have that same tremendous hyperplasia in the red cell series here. One almost wonders if it could not be erythroblastic aleukemia, except that there are not enough of these cells in the blood.

Dr. Earle M. Chapman: With relation to this peculiar picture, we had two patients in the Tumor Clinic both of whom had red blood counts of six to seven million with 80 to 85 per cent hemoglobin. Both showed a white blood count of about 50,000 with less than 10 per cent of immature myeloid cells, such as may be seen in polycythemia. We did a sternal marrow puncture in one case because we were not sure whether it was polycythemia or leukemia, but the section of this marrow showed myeloid leukemia. What we really have is a leukemic process with an extreme hyperplasia of the red cell elements going on side by side with it.

Dr. Mallory: It is not impossible that there may be conditions in which leukemia and polycythemia go hand in hand and a single stimulus is responsible for both conditions.

Dr. Jones: In erythroblastosis cases you can get peripheral blood findings just like the findings here, but the smear is made up of marrow cells in tremendous numbers.

Dr. Mallory: It seems that we have these same cells in the smears here but in small numbers, that is, that this might bear the same relation to ordinary erythroblastic leukemia that an aleukemic leukemia bears to an ordinary leukemia.

Dr. Greene Fitzhugh: Would you not expect more jaundice in a case like this with such marked hyperplasia of the marrow? He had a very low peripheral blood count and not much jaundice. The icteric index was 8. With such active marrow there must be marked red cell destruction or the peripheral blood count would not be so low, yet there was only slight jaundice.

Dr. Mallory: I think we must assume that a relatively small proportion of red cells are differentiated completely. In that way the process is much like pernicious anemia. It is very fortunate that in this case we did have a gastric analysis, so that we have another argument for ruling out pernicious anemia.

A Physician: Was there any blood pigmentation in the kidney?

Dr. Mallory: No.

A Physician: I think the cell volume determination is much more important than the gastric analysis. I have seen three cases with hydrochloric acid. As a matter of fact one of them was here.

The New England
# Journal of Medicine

SUCCESSOR TO
THE BOSTON MEDICAL AND SURGICAL JOURNAL

*Established in 1828*

Published by THE MASSACHUSETTS MEDICAL SOCIETY under the jurisdiction of the

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SUBSCRIPTION TERMS: *$6.00 per year in advance, postage paid for the United States, Canada $7.04 per year, $8.52 per year for all foreign countries belonging to the Postal Union.*

*Material for early publication should be received not later than noon on Saturday. Orders for reprints must be sent to the Journal office, 8 The Fenway.*

*The Journal does not hold itself responsible for statements made by any contributor.*

*Communications should be addressed to The New England Journal of Medicine, 8 The Fenway, Boston, Mass.*

## A PROPOSED EVOLUTION OF HOSPITAL SERVICE

AMONG the disturbing conditions affecting the present social structure, that of meeting the economic problems relating to illness occupies no insignificant position. There is a basic responsibility of the State relating to the actual needs of communities and individuals in the maintenance of health and the preservation of life, inasmuch as the investment in human beings is the greatest asset of the nation and constitutes its endowment and reserve assets.

Many plans are being evolved, some purely selfish and designed to exploit the unfortunate; but others are being formulated with the expectation of providing remedial and preventive resources within the financial means of those not capable of creating organizations essential to the well-being of the people. Many such schemes have been elaborated from time to time, of which some are good and some of limited application. The more or less successful plans, however, may need adjustment to the evolutionary changes taking place in medicine. One factor looms large in any plan for medical service which includes the comparatively low income group, and that is the possibility of meeting the necessary costs of hospital service by self-respecting working people without accumulated savings. Examples are found especially among young married people. Since hospitalization is an increasing resource of the ill, it is most fitting that the Trustees of the American Hospital Association have asked its Council on Community Relations and Administrative Practice to study the conditions and develop plans for the guidance of hospitals and information of the public. The report of this Council appears in a brochure of six pages under the title "The Periodic Payment Plan for the Purchase of Hospital Care."

This report sets forth that "group hospitalization plans, properly developed, should enable many persons, for whom hospital service must now be provided out of taxes or from private charity, to carry their own load without hardship. The principal purpose of the plan is to enable persons of limited means who value their independence and do not wish to become objects of charity or to be deprived of needed hospital care to include hospital costs in their personal or family budgets. Group hospitalization plans should be established with this public service in view and not for the gain or profit of the promoters."

The details of this plan include the payment by the patient member of a group of the average annual cost of hospitalization probably not to exceed twelve dollars, because no profit will be included in the charges. The plan includes strict adherence to ethical standards and no competitive charges among the hospitals entering into the plan and the hospital group should, so far as possible, include hospitals of standing in the community. This plan is already in operation in several places. In brief the essentials of the plan are as follows: "The plan which the American Hospital Association's Trustees and Council have endorsed in principle is a periodic payment plan under which a large number of individuals contribute equal amounts to a common fund to be used for purchasing hospital service when needed. The participating hospitals, individually or as groups, guarantee to provide care, of the types specified in the agreement, for any enrolled contributor or member, and the proceeds of subscribers' payments (after the deduction of necessary and carefully controlled expenses of administration) are paid over to the participating hospital or hospitals in proportion to the service rendered." Under this group hospitalization plan, the ordinary details of insurance methods are not included.

This plan does not include the physicians' fees and leaves the relation of doctor and patient as it ordinarily exists, but does as a rule exclude patients with diseases which are not usually cared for in community hospitals.

Stages of development are as follows: "There are three stages in the development of a plan. First, what may be called the technical stage, during which the hospitals themselves, with such legal and other advice as may be required, determine upon the services to be offered and the rates which they believe to be sound. Secondly, the promotional stage during which this plan has to be organized in working form and accepted by groups of persons who are ready to pay for the services offered. Thirdly, the administrative stage when the plan is actually in operation and must be capably managed."

Again quoting: "The control of the plan as well as the direction of activities incidental to it must remain in the hands of a non-profit organization composed of or representing the hospitals, and must not be transferred to an employed enrolling agency. Hospitals should decline to enter into contracts with any business agency which controls or seeks to control the finances or management of the plan."

With this as in other plans however alluring, consideration of local conditions is imperative and much information will be found in the pamphlet issued by the American Hospital Association. There is, undoubtedly, abundant opportunity for the medical profession to devote itself to the solution of many of the problems relating to the provision of adequate medical care within the ability of patients to pay therefor.

We respectfully urge constructive consideration of this plan to the hospitals of Metropolitan Boston.

## WARRINGTON WORTHIES

Warrington Academy, a non-conformist institution which drew so many students to Warrington, England, from 1757 to 1786 that it temporarily eclipsed Oxford and Cambridge, has recently been the subject of renewed interest. The Mayor of Warrington, who died in 1931, left a notation in his will that memorial tablets should be put up on the site of the residences of the physicians and divines connected with the Academy in the last half of the eighteenth century. This unique provision, published in the *Times*, London, August 5, 1932, brought forth considerable editorial comment upon the Warrington Academy and its great influence upon religious and scientific thought.

The group of tutors who founded this center of learning and piety were unusual men, who exerted an influence upon their students which spread widely in England and this country. It is remarkable that so small an institution could have been the starting point of numerous cultural achievements, for of the four hundred pupils, many became outstanding in the legal, theological, or medical professions.

The teachers in Warrington Academy from 1757, when it was founded, until it ended its brief career in 1786, were men of strong ideals, sincerely religious and, although living on meagre wages, they were happy in their occupation. Chief among them were John Aikin, William Barnes, Joseph Priestley and Gilbert Wakefield. Aikin, a dissenting minister, became the classical tutor; his son, John Aikin, M.D., trained by his father, became well known not only as a physician but as a man of letters. He, moreover, handed down the inheritance of scholarship to his sons, Arthur and Charles, both chemists of note, and to his daughter, Lucy, a poetess of considerable importance, whose long correspondence with William Ellery Channing of Boston forms a connecting link between old Warrington and New England unitarianism. Barnes, too, trained a son, to become better known than himself, for Thomas Barnes founded the Literary and Philosophical Society of Manchester with Thomas Percival, who had been a fellow-student at Warrington and later wrote "Medical Ethics", the foundation of our code of practice today. John Priestley, who came to Warrington in 1761, was certainly the outstanding figure. He appears, during a short stay there, to have been singularly happy in spite of the small financial return of one hundred pounds a year. He formed, with his fellow tutors, a Saturday Club for graver conversation, but was also given to lighter pursuits, the principal of which was the writing of verse, for the time being anonymously. We can imagine this small group sitting around in Priestley's study, dropping their literary productions of the preceding week into Mrs. Priestley's workbag, later to be taken out and read to the assembled scholars. It was here that Aikin's daughter first exerted her poetic influence. The fourth tutor of distinction, Gilbert Wakefield, also became a man of importance, although he, apparently, did not have the outstanding characteristics of the great Priestley.

Still another ramification of the influence of the school is seen in the purchase of the medical and scientific books of the Warrington Academy and Dispensary by the Johns Hopkins Medical School in 1906. Sir William Osler had gotten word of the sale of this library and through his efforts money was raised and the whole library transferred to this country. It contains many important seventeenth and eighteenth century books and now forms part of the Welch Medical Library, one of our great centers for the study of medical history.

## REPORT THAT ULTRAVIOLET RAYS WILL KILL GERMS

THE use of ultraviolet rays as an antiseptic was suggested by experiments in which germs were destroyed when exposed to these invisible radiations, according to Dr. Harvey C. Rentachler, Director of Research, the Westinghouse Lamp Company, Bloomfield, New Jersey, who recently spoke before the Society of Automotive Engineers at their Detroit convention.

"One of the valuable uses of ultraviolet rays in the medical field today", Dr. Rentachler said, "is its germicidal effect for skin treatment, since many of these diseases are caused by germs. Regular irradiation of the diseased area will soon cause the germs to die and effect a cure.

"About five minutes were necessary to destroy paramecium cells, but the germs of typhoid and scarlet fever have been killed in from one to three seconds. If ultraviolet rays eventually can be shown to destroy every form of germ life, then they should afford a more humane antiseptic treatment, not only for the small cuts and sores that children develop but more importantly in the operating rooms of our modern hospitals where every precaution must be taken to prevent infections."

Confirmation of these claims will be awaited with interest.

## THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

WARREN, SHIELDS. A.B., M.D. Harvard University Medical School 1923. Pathologist to the New England Deaconess, New England Baptist, Collis P. Huntington Memorial and Pondville State Hospitals. Consulting Pathologist, House of the Good Samaritan. Instructor in Pathology, Harvard Medical School. His subject is "The Pathology of Chronic Myocarditis." Page 573. Address: 195 Pilgrim Road, Boston.

CHRISTIAN, HENRY A. A.M., LL.D., Sc.D. (Hon.) M.D. Johns Hopkins University School of Medicine, 1900. Hersey Professor of Theory and Practice of Physic, Harvard University and Physician-in-Chief, Peter Bent Brigham Hospital, Boston. His subject is "Diagnosis of Chronic Nonvalvular Cardiac Disease (Chronic Myocarditis)." Page 574. Address: Peter Bent Brigham Hospital, Boston.

JACKSON, HENRY. M.D. Harvard University Medical School 1884. His subject is "Treatment of Nonvalvular Heart Disease of Middle and Old Age." Page 574. Address: 51 Hereford Street, Boston.

DERICK, CLIFFORD L. M.D., C.M. McGill University Medical School 1918. Assistant Professor of Medicine, Harvard Medical School. Physician, Peter Bent Brigham Hospital. Address: Peter Bent Brigham Hospital, Boston. Associated with him is

O'HARE, JAMES P. A.B., M.D. Harvard University Medical School 1911. Assistant Professor of Medicine, Harvard Medical School. Senior Associate in Medicine, Peter Bent Brigham Hospital. Address: 520 Commonwealth Avenue, Boston. Their subject is "Treatment of Subacute Hemorrhagic Nephritis with Streptococcus Vaccines." Page 578.

O'KEEFE, EDWARD S. A.B., M.D. Harvard University Medical School 1911. Instructor in Pediatrics, Harvard Medical School, Associate Physician, Massachusetts General Hospital. Address: 31 Broad Street, Lynn, Mass. Associated with him is

BURGIN, LEO B. A.B., M.D. Harvard University Medical School 1931. Graduate Assistant in Pediatrics, Children's Medical Service, Massachusetts General Hospital. Address: 34 Abbotsford Street, Roxbury. Their subject is "The Comparative Value of the Scratch and Intradermal Methods of Skin Testing in Asthma and Hay Fever of Children." Page 582.

COTTON, FREDERIC JAY. A.B., A.M., M.D. Harvard University Medical School 1894. F.A.C.S. Consulting Surgeon, Boston City Hospital and Faulkner Hospital. His subject is "Medicine, Ethics and Law." Page 584. Address: 520 Commonwealth Avenue, Boston.

## BOSTON MEDICAL LIBRARY

THE usefulness of this Library is dependent on a number of factors and those who use it have a great variety of interests. It is the aim of the management to ascertain both these factors and interests and to provide a well-selected list of books and periodicals from the great mass of publications that are constantly coming off the presses, covering in a comprehensive way the best of this material. In the past we have been particularly well supplied with current periodic literature. Curtailed income has necessitated certain restrictions in purchases of all sorts. This situation, we hope, is only temporary, but the consequent impairment in the service that the Library seeks to render we are anxious to offset by providing other types of service. One of such methods is the "packet service" in common use in certain sections of the country. This is a reprint service made available by topical selections of reprinted journal articles, which may be loaned to those entitled to membership privileges. We are, therefore, requesting that all who have reprints of articles of their own, or accumulated reserves of those sent them by others, donate two copies of their own, if possible, and all that they are willing to spare of others, to the Library, that we may augment our files and provide material, when properly classified, for this "packet service";

a fuller notice of which will be published later. Such material, as well as many books, has a value attached to them when in a classified, public collection, which they do not possess when in private hands. For this reason, we would urge that all such material be made accessible for wider use by sending it to the Boston Medical Library, 8 The Fenway, where it will be greatly appreciated. There are doubtless very many collections of medical books and books on the supplementary medical sciences which have a value to the users of medical literature not realized by the possessors. The Director or the Librarian would be glad to be made acquainted with the location of private libraries that may contain such volumes, in the hope that they may be made a part of our resources. The possibility that they may be duplications is of no moment, for it is in our plan that a little later an extension service be instituted to Hospital Medical Libraries throughout the State for both books and periodicals, in which case duplicates will be very desirable.

## MASSACHUSETTS LEGISLATIVE NOTES

The Committee on Public Health of the Massachusetts Legislature has reported no legislation necessary on House 106—recommendations (accompanied by bill) of the Board of Registration in Medicine relative to the qualifications of applicants for registration as qualified physicians.

**House bill No. 365** has been given leave to withdraw. This bill was designed to permit any person aggrieved by any ruling, decision, or action of the several boards of registration, to appeal from such action and have the case passed upon by the Superior Court.

**House bill No. 370** has been given leave to withdraw. This bill on the petition of C. Rugles Smith was designed to make legal the action of the Board of Registration in Medicine in registering graduates of medical schools which give less than thirty-six weeks of instruction each year.

This bill had no purpose to correct present defects in the law which are now apparent. There should be enacted at this session of the Legislature emergency legislation which will provide a possible way for the registration of qualified physicians who are ready to enter upon practice.

The law as it stands shuts out all graduates of those medical schools which do not give thirty-six weeks' instruction each year. It is clearly up to the Legislature to correct a law which cannot be complied with under existing conditions.

## MISCELLANY

### MORTALITY RATES

Telegraphic returns from 85 cities with a total population of thirty-seven million for the week ending February 25, indicate a mortality rate of 12.3 as against a rate of 12.9 for the corresponding week of last year. The highest rate (21.0) appears for Wilmington, Del., and the lowest (5.8) for Somerville, Mass. The highest infant mortality rate (18.1) appears for Knoxville, Tenn., and the lowest for Bridgeport, Conn., Cincinnati, O., Duluth, Minn., Kansas City, Kans., Long Beach, Calif., Somerville, Mass., and Tampa, Fla., which reported no infant mortality.

The annual rate for 85 cities is 12.6 for the eight weeks of 1933, as against a rate of 12.1 for the corresponding period of the previous year.

### A RADIO MESSAGE PREPARED AND SPONSORED BY THE COMMITTEE ON PUBLIC EDUCATION OF THE MASSACHUSETTS MEDICAL SOCIETY FOR THE DEPARTMENT OF PUBLIC HEALTH

#### OLD AGE DEFERRED*

BY W. R. OHLER, M.D.

Nobody wants to grow old; most of us even prefer not to think about it. Everyone would like to defer or postpone the inevitable. Especially is this true if with the postponement of old age one can retain the health and vigor usually present in young adult life. For after all, long life has no virtues and probably few joys unless it is blessed with physical and mental health, assuring continued activity and earning capacity.

Just what do we mean by old age? There are some people who always give the impression of being old, probably because they have never experienced the full joy of living. Such prematurely old people are probably old in spirit rather than because of any definite bodily changes. In general we can say that growing old is a transition period, a period which comes into the life of every man, a period which may bring sudden or gradual changes, and which, when it comes, brings with it the unescapable realization that we are no longer young. Furthermore, as a rule, the transition from youth to manhood and to middle life is much more pronounced than the transition from middle life to old age.

This transition period has no definite age demarcation. Some men are old at fifty, others not until seventy. As old age approaches there is a general slowing of all physical and mental processes, due undoubtedly to changes in the blood vessels. These changes are in the nature of a hardening and thickening of the walls of the blood vessels (so-called, arteriosclerosis) which in turn impairs the nourishment and function of various organs of the body. (Hence, the well-known adage that "a man is as old as his arteries".) This old age process does not always travel at the same rate of speed in various parts of the body in a given individual. In some, the circulation in the brain is first affected, in others it is in the heart muscle and in still others it is the circulation in the extremities, especially the legs. This explains why some people may be men-

*Station WBZ, October 18, 1932, 4:15 P. M.

tally old and yet physically unimpaired and why others may be old in so far as strength in the legs or in the heart is concerned, and yet mentally apparently as well as ever.

Old age then is a transition period, slow or rapid, but inevitable, due in a large measure to a sclerosis or hardening of the arteries. When this period comes, it brings with it first a slowing, later a definite impairment in mental and physical processes.

How can this inevitable march of events be deferred or postponed? Perhaps the best way to answer this question is to consider some of the more important diseases and circumstances which seem to have a direct bearing on the development of arteriosclerosis.

1. Heredity. There are certain forms of arterial disease which are due to the influence of heredity. Cases of high blood pressure with its subsequent damage to the blood vessels occurring in young people frequently are found in this group. Prevention is impossible except in so far as one is able to follow the old advice of Oliver Wendell Holmes, about choosing our ancestors. The individual is not necessarily doomed to a premature old age and definite shortening of life, however. Much can be done by accepting the situation philosophically, placing oneself in the hands of a wise, competent physician, and thereby adjusting one's life to the limitations which have been placed upon it. In other words, while the situation cannot be prevented, it can be prolonged and perhaps arrested, especially if detected early. Herein lies the value of a periodic health examination, inasmuch as high blood pressure and early arterial disease frequently cause no symptoms until well advanced.

2. Diseases of various sorts. The question of the influence of various diseases on the development of arteriosclerosis is one which interests us all. Unfortunately, definite data are often lacking and furthermore, the subject is too broad to be adequately considered here. This much can be said. Certain types of heart and kidney disease, diabetes and syphilis do have a definite secondary bad effect on the arteries, and in this way contribute to an early approach of the old age period. Anything, therefore, which can be done to prevent such diseases and to facilitate early diagnosis and proper treatment, may help to prolong a life of usefulness for the individual. In this connection the work of such agencies as the United States Public Health Service, various State Health Departments, the American Heart Association, etc., is worthy of comment.

3. Tobacco and alcohol. The question is often asked,—Does the use of tobacco or alcohol predispose to the development of arteriosclerosis? Here again definite data are often lacking because the effects vary so much in different individuals. By and large it can be said that alcohol and tobacco in moderation probably cause no damage to the blood vessels. Just what is meant by moderation is an individual problem to be determined by a careful medical examination and by an accurate knowledge of one's medical history. The family physician is in a position to give best advice on a question of this sort.

4. Worry, the stress and strain of modern life, overwork, lack of sleep, overindulgence in food, etc., —in other words, immoderate living. As a matter of fact, we believe that immoderate living has much to do with the present day increase in the amount of high blood pressure, certain types of heart disease and general arterial disease. Many a man arrives at a definite goal at forty or forty-five only to find that he is already too old to enjoy the fruits of his labor. We take excellent care of the engine in our automobile, but in the stress and strain of modern life seldom pause to consider the delicate mechanism in our own bodies until it is too late. Moderation and relaxation are two excellent routes to travel. A little less hurry, a little more sleep, a little more time for relaxation, especially during the noon hour, a little more exercise in the out-of-doors, a little more contact with growing children, all these tend not only toward a happier life, but a longer one.

Can old age be deferred? The first answer to this question is,—Can life be prolonged? To this last question we can say "yes". All the evidence at hand, especially evidence from insurance companies, shows that man's expectancy has been prolonged five or ten years over what it was formerly. But with this prolongation of life can we defer the mental and physical slowing which comes with old age? Here again the answer is "yes". In order to do so we must take good care of our bodies especially during those years of early manhood during which one is less likely to pay any attention to matters of health. Moderation in all things is a good safe rule to follow.

## CORRESPONDENCE

### AN APPEAL TO ATHLETIC PHYSICIANS

Young Men's Christian Association
Taunton, Massachusetts

March 4, 1933.

*New England Journal of Medicine,*

We have a Volley Ball team composed entirely of physicians. They would like to issue a challenge, through your publication, if possible, to any team of practicing medical men, in Southern New England.

They are: Dr. Curtis Kingsbury, Capt., Dr. Joseph Murphy, Dr. Alphonse Gagnon, Dr. Harold Williams, Dr. Samuel Poplack, Dr. Joseph Muns.

Yours very truly,

JAMES P. HYND, *Physical Director.*

## SUGGESTIONS RESPECTING THE ELECTION OF A PRESIDENT-ELECT

Editor, *New England Journal of Medicine*,

I have read with interest the editorial, in relation to the presidency and vice-presidency, in the *New England Journal of Medicine*. After nearly a year's service as the present vice-president, entirely without self-seeking either for continued tenure of, or advancement in, office or criticism of the present and past ably administered presidencies, I should like to modestly present my views through your columns in the desire to add construction to the principles involved in this editorial.

It seems to me that both the hazards of daily life and the complexities of the profession of medicine have vastly increased in the last few years and that, therefore, the burdens of the presidency have become more onerous. If the office of vice-president were to be synonymous with that of the president-elect, allowing him to share in such responsibilities of the higher office as the president might select, he would lessen the tension under which the president labors and should be able to attend at least to subordinate matters for his chief. At the same time the vice-president as president-elect would be serving an apprenticeship that would tend to make him a more virile figure as he advanced to the presidency. At the present time the vice-president has no duties to perform except in the case of absence or disability of the president. In the immediate past the vice-presidency has been graciously bestowed upon someone to whom the Society wished to show its appreciation of work well done. Personally and doubtless in the case of others preceding me, that graciousness has seemed unnecessary and out of proportion to the result accomplished. Furthermore I believe that any of us who have the privilege to work for the interest of the Massachusetts Medical Society feel that the confidence and responsibility invested in us with the approval of the Council is sufficient reward, if indeed any recognition is expected.

It seems to me that the president has been handicapped in so far as the expression of his policies and endeavors for constructive efforts are concerned by being openly so largely occupied with his duties as the presiding officer, and it appears that there might well be formed a president's cabinet, the members of which appointed by him, should be representative of the different and widely separated sections of the State and who would advise with him in regard to the policies formulated and the ways and means of accomplishment. The cabinet members would then be sufficiently familiar with the matters under discussion to ably present them to the Council for action. Certainly there are ex-presidents in the Society who by reason of their past service in office and, therefore, their intimate knowledge of conditions, their contacts and ripe judgments, holding our confidence and respect and being deeply interested in the welfare and progress of the parent society, would be invaluable in such advisory capacity.

Respectfully,

WALTER A. LANE, M.D.

## RECENT DEATHS

**AUGUST** — ALBERT AUGUST, M.D., of 51 Brattle Street, Cambridge, died March 7, 1933. He was born in Emendingen, Germany, September 15, 1870. He graduated from the Harvard University Medical School in 1893 and had served on the surgical staff of the Cambridge Hospital since 1899. He was a Fellow of the Massachusetts Medical Society and a member of Amicable Lodge, A. F. and A. M., the Cambridge Club, Colonial Club, and Harvard Club. He was a charter member of the Morrill Wyman Club.

Dr. August leaves a widow, Laura Hazel August; a daughter, Laura Helene August; a brother, Joseph August of Cambridge; two sisters, Miss Fannie August of Cambridge, and Mrs. Judith Abels of Lowell.

**SEGOOL** — SAMUEL HIRSH SEGOOL, M.D., died at the Boston City Hospital January 11, 1933, aged 28 years.

Dr. Segool graduated from the Harvard University Medical School in 1928 and practiced in Roxbury having an office at 180 Seaver Street. He joined the Massachusetts Medical Society in 1930 and was also a Fellow of the American Medical Association.

## OBITUARY

### A TRIBUTE TO A GENERAL PRACTITIONER*

MANUEL SCOTT HOLMES, M.D.

*An Appreciation*

BY NELLY BENSON WILBUR

Among the many great losses our community has sustained during the past months, none will be more universally felt, or more deeply realized than that of our beloved friend, neighbor and fellow citizen, Dr. Manuel Scott Holmes. For more than half a century he had ministered to our physical needs, seeing generations come and go, bringing life into the world, cherishing it, curing its ills, fostering its endurance, and finally easing its path into the unknown. Quiet, unassuming, how little did he realize the love and esteem felt for him by old and young, regardless of social barriers, for his service was unrestricted. The neediest and the lowest called upon him with the same confidence as the richest and most influential. He was never known to resist the cry of suffering even when his own condition would have been ample excuse. This winter, with its unusually large amount of illness, had made increasing demands upon his failing strength, and

*Furnished by Timothy Leary, M.D., and supplied to him by C. E. Gleason, Commissioner of Industrial Accidents. Published in the *Waterville, Maine, Sentinel*.

he had literally given his life for his friends. As one of our native sons, he bore an inheritance from pioneer ancestors of sobriety, industry and integrity, and was a preëminent example of one "who made good in his home town". Along with professional success, he had also experienced disappointment, sorrow and tragedy, so that his big heart could comprehend all phases of suffering and his sympathy had been as healing as his medicine. So accustomed a part of our lives he had become, that it did not seem as if he could ever leave us, and we are stunned by the shock, not yet daring to face the great gap his passing has left here. We know that he welcomed death as a friend, who should bestow peace after painful effort, victorious achievement after struggle, the sunlight of God's love making clear life's dark mysteries. We may be sure that whatever of blessedness is in store for the saintly will be his in the fullest measure.

## NOTICES

### CLINICS IN MEDICINE AT PETER BENT BRIGHAM HOSPITAL

On Thursdays at 3:30 P.M. in the Amphitheatre of the Peter Bent Brigham Hospital Dr. Henry A. Christian, Hersey Professor of the Theory and Practice of Physic, Harvard, and Physician-in-Chief, Peter Bent Brigham Hospital, will give a series of clinics which members of the medical profession are cordially invited to attend. The next clinic will be given on March 23.

Physicians and medical students are also invited to attend ward rounds of the Medical Staff of the Peter Bent Brigham Hospital held from 10-12 o'clock on Saturdays, as well as a clinical-pathological demonstration immediately following these rounds.

### TO THE MEDICAL MEN VISITING BERLIN

Whosoever may be going to Berlin would do well to apply to the Medizinische Informationsbüro (Medicinal Enquiry Office) at the Kaiserin-Friedrich-Haus, Berlin N. W. 7, Robert Koch-Platz 7; any kind of information, of interest to the medical man, concerning hospitals, clinics, public health matters, continuation courses, etc., will be obtainable there. The enquiry office is of a semi-public nature, all informations being furnished impartially and gratuitously. The medical man, visiting Berlin, will benefit from his stay to a far greater extent, if he communicates with the office either previously or immediately after his arrival.

### A LECTURE BY DR. E. A. GRAHAM

Dr. Evarts A. Graham, Bixby Professor of Surgery, Washington University, St. Louis, will deliver a public lecture under the auspices of the Harvard Chapter of Alpha Omega Alpha on Thursday, March 23, at 5 P.M. The meeting will be held in Building C Amphitheatre of the Harvard Medical School, and the subject of the lecture is "The Application of Surgery to the Hypoglycemic State Due to Islet Tumors of the Pancreas and to Other Conditions." Physicians, medical students and all interested are invited to attend.

M. B. Low, *Secretary.*

### RADIO HEALTH MESSAGES

**March, 1933**

Sponsored by the Public Education Committee of the Massachusetts Medical Society and the Massachusetts Department of Public Health.

Courtesy WBZ. Tuesdays, 4:15 P.M.

March

21 Can We Prevent Diabetes?

28 Hobbies and Health

#### State House Broadcast

Sponsored by the Massachusetts Department of Public Health.

Courtesy WEEI. Fridays, 12:45 P.M.

Health Subjects of Public Interest discussed by the Division Directors of the Department.

#### Radio Health Forum

Queries from the public are answered under the sponsorship of the Department of Public Health.

Courtesy WEEI. Fridays, 4:50 P.M.

Questions on Health and Prevention of Disease may be sent to Radio Health Forum, State Department of Public Health, State House, Boston.

### HARVARD UNIVERSITY

#### Free Public Lectures on Medical Subjects

The Faculty of Medicine of Harvard University offers a course of free public lectures on medical subjects, to be given at the Medical School, Longwood Avenue, Boston, on Sunday afternoons. The lectures will begin at four o'clock and the doors will be closed at five minutes past the hour. No tickets are required.

SUNDAY AFTERNOONS AT FOUR O'CLOCK

March 19—Dr. Randall Clifford: The Tuberculosis Problem Today.

March 26—Dr. W. G. Smillie: A Discussion of the Common Cold.

### THE AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The American Board of Obstetrics and Gynecology proposes to hold the first of a series of annual dinners for Diplomates of the Board and their friends on the first day of the Scientific Session of the American Medical Association meeting in Milwaukee, at which time the successful candidates from the examination of the day before will be introduced in person. One or more addresses will be made by officers of the Board and a Round Table Conference and general discussion of the activities of the Board will follow. Diplomates ex-

pecting to be in attendance at the Scientific Session of the American Medical Association are urged to make reservation for this subscription dinner as early as possible through the office of the Secretary of this Board. Further announcements will be made through the *Journal of the American Medical Association* and the *American Journal of Obstetrics and Gynecology*.

The next written examination and review of case histories will be held in cities throughout this country and Canada, where there are Diplomates who may be empowered to conduct the examination, on April 1, 1933.

The next general, clinical examination is to be held in Milwaukee on Tuesday, June 13, 1933, immediately preceding the annual session of the American Medical Association. Reduced railroad rates will apply.

For further information and application blanks, address the Secretary, Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania.

### REMOVALS

Francis Shaw, M.D., announces that he has changed his address from 57 Cross Street, Somerville, to 144 School Street, Somerville.

Morris N. Davidow, M.D., announces the removal of his office from 574 Warren Street to 470 Warren Street, Roxbury.

Horace Paine Stevens, M.D., announces that he is to be located temporarily at 1911 Massachusetts Avenue, Cambridge. Telephones University 4321, Commonwealth 2010.

A notice has been received in this office that Drs. W. B. Coffey and J. D. Humber announce the removal of the Coffey-Humber Malignancy Clinic from the Southern Pacific General Hospital, with the establishment of Diagnostic Clinics at 909 Hyde Street, corner Bush Street, San Francisco, California, M. G. MacNevin, M.D., Director, and 1303 South Gramercy Place, corner Pico Boulevard, Los Angeles, California, R. W. Starr, M.D., Director.

## REPORTS AND NOTICES OF MEETINGS

### HARVARD MEDICAL SOCIETY

The stated meeting of the Harvard Medical Society was held in the Peter Bent Brigham Hospital Amphitheatre on Tuesday evening, February 14. A medical and a surgical case were presented.

The first patient was a 65 year old man who for eight years had had gripping substernal pain which was usually relieved by rest and nitroglycerin. The blood pressure was 125 systolic and 80 diastolic. There was peripheral arteriosclerosis; electrocardiographic studies showed left ventricular preponderance. The especially interesting feature of the case was the demonstration by x-ray of calcification of the left coronary artery.

The second patient was a 26 year old married woman admitted for the first time two months previously, complaining of hard, brawny skin especially over her hands, and great sensitivity to cold in her fingers. The disease commenced six years ago after childbirth, with blanching of the skin on exposure to cold, followed by blueness, and then redness but without pain. Physical examination was essentially negative except for swelling and thickening of the skin on the hands and face, and the color changes mentioned above. The basal metabolic rate was —22. Thyroid extract was administered, and the B.M.R. rose to —10. There was a 4.5 degree skin temperature change under spinal anesthesia, and a cervical sympathectomy was advised. The right side was done, convalescence was uneventful except for the development of a Horner's syndrome; the left side will be done. Thyroid extract has been discontinued.

Dr. R. G. Hahn, resident physician at the Peter Bent Brigham Hospital, spoke on "The Effect of Epinephrine on the Cardiac Mechanism in Experimental Hyper- and Hypo-thyroidism," and "The Minimal Toxic and Lethal Dosage of Digitalis in Experimental Hyper- and Hypo-thyroidism."

That paroxysmal auricular fibrillation is fairly frequent in hyperthyroidism has long been known. That such a condition is sometimes brought on by an emotional upset is also known, and it was suggested that the onset of fibrillation in the thyrotoxicosis might be due to the enhancement of the action of adrenalin in the hyperthyroid state. Rabbits were used, and one group had total thyroidectomies; a second group received two to four grains of thyroid extract daily for three weeks, or one milligram of thyroxin subcutaneously daily for three days; and a third group was used as a control. Then dilute epinephrine, one cc. of 1/100,000 solution, was injected. In the hyperthyroid group, five animals with an average basal metabolic rate of plus 75 were used in a number of experiments. Paroxysmal ventricular tachycardia ensued in 20 instances, auricular fibrillation in five cases, extrasystoles in two, a change in the Q.R.S. wave in one, and nodal rhythm in seven.

In the animals with hypothyroidism (average basal metabolic rate —34) one cc. of the same epinephrine solution failed to produce any significant changes except temporary slowing in rate. In four animals with average basal rates of plus 82, when 0.1 to 0.5 cc. of 1/1000 solution of epinephrine was employed, paroxysmal ventricular tachycardia and auricular fibrillation were produced three and two times, respectively, with death in three instances. Normal animals gave no such striking results. Illustrations of the electrocardiographic changes produced were next shown on the screen.

Because the tachycardia in patients with hyperthyroidism and heart complications reacts poorly to digitalis, it was thought that the minimal toxic and minimal lethal doses of digitalis might vary in

their absolute value or ratio to one another in experimental hyper- and hypo-thyroidism. Such was not found to be the case. The average minimal lethal doses did not vary much from the normal controls in either of the two conditions.

Dr. James Means said that the action of drugs in hyperthyroidism and myxedema was a very interesting field for study, and added that morphine has been shown by Lund to have a more pronounced effect than normal in hypo-thyroidism. Dr. Henry Christian said that digitalis will often bring down a pulse rate if the tachycardia is due to some one or another cardiac factor, but that in tachycardia of fever, thyroid disease, and other extrinsic mechanisms, there is usually no such effect produced. It has also been shown that digitalis may produce toxic effects in fever if its administration is pushed, and especially so if the fever suddenly subsides.

Dr. S. A. Levine presented "A Follow-up Study of Sixty-Nine Patients with Hyperthyroidism and Significant Heart Disease." Dr. Levine noted that to the heart specialist nothing he sees is so remarkable in its restorative powers as thyroidectomy in "thyroid heart disease". His study was based on follow-up work on 69 patients with gross organic heart disease and concomitant hyperthyroidism, in whom subtotal thyroidectomy was performed. All of the patients had gross evidence of congestive or anginal heart failure preoperatively. The average basal metabolic rate was plus 51 preoperatively, and plus five postoperatively. The heart size and blood pressure were not appreciably different after operation. Dr. Levine believes that thyroid patients often have hypertension, that there is more than an accidental relationship between hyperthyroidism and hypertension, and suggests that perhaps it is the constitution of the individual which is the basis of the association of the two diseases.

In 27 cases where specific mention of murmurs was made before and after operation, 16 instances of disappearing systolic murmurs were noted; in eight cases the murmur became less intense and in three remained unchanged. On the other hand, three apical diastolic murmurs were first detected when the heart had slowed down after operation.

Thirty-two of the 69 cases had permanently established auricular fibrillation, and 24 of these were followed to see whether fibrillation persisted. Of 11 patients who had mitral stenosis also, there was no change with regard to the irregularity in 10; in one, normal rhythm was restored after the use of quinidine, but a temporary hemiplegia ensued on the same day. When mitral stenosis is not present all the fibrillators do not go back to normal. If fibrillation persists for three weeks, and the basal metabolism has become normal, and mitral stenosis is not present, Dr. Levine believes that quinidine may be used. Quinidine before operation is almost useless, for its effect is only transient until the thyroid is removed. The use of quinidine in mitral stenosis is always risky, because it may result in embolism.

Other irregularities than fibrillation were the following: Six cases of paroxysmal flutter, cured in all but one case, and in this case the basal metabolic rate was still plus 18; two cases with irregularity due to sinus pauses were cures; two cases had delayed auriculo-ventricular conduction time, and one of these was cured of this.

Dr. Levine concluded by saying that "thyrocardiacs" are not poor operative risks as a rule, that they are never too sick to be treated surgically, and that good results are practically always obtained. The rarity of "thyroid heart disease" below 30 to 35 years of age indicates that various degrees of heart failure are hardly ever due to the thyroid gland alone, but that circulatory factors are concerned also.

Dr. H. M. Clute of the Lahey Clinic opened the discussion. The presence of auricular fibrillation or congestive failure constitutes the criteria for terming a patient "thyrocardiac" at the clinic. Any patient who can stand the trip to the hospital can usually withstand operative procedure, Dr. Clute added. The return of congestive failure in such cases may be an early sign of recurrence.

Dr. J. C. Aub stated that he believed hyperthyroid disease is hardly ever associated with arteriosclerosis, and asked Dr. Levine what his experience had been. Dr. Levine agreed with this.

Dr. James Means remarked that the surgical procedure is now standardized so that there is a very low mortality, but that the use of iodine has been the chief factor in its reduction. The more experienced the surgeon, the less is the likelihood of recurrence.

Dr. Christian stated that apical systolic murmurs depend upon several factors, including the rather variable velocity of blood flow. A systolic murmur is often apt to be heard in a fast heart, a diastolic murmur in a slow heart, and both may be very evanescent, depending on change of rate and speed of flow.

## MASSACHUSETTS GENERAL HOSPITAL

### Clinical Meeting of the Staff

A clinical meeting of the staff of the Massachusetts General Hospital was held in the Moseley Memorial Building on February 16. Dr. W. J. Mixter presided.

Dr. Richard Pearse presented a case of probable thromboangitis obliterans in a thirty-six year old colored woman. Six years ago she was found to have a positive Wassermann reaction and prolonged and energetic treatment was instituted with the result that the serology is now normal. Five years ago she began to have pain in the left foot and thigh after exercise. The pain has slowly and steadily progressed so that recently she has been unable to walk more than a block without resting. Several years ago a chronic infection

of the left great toe required hospitalization twice, and varicosities of the leg have been injected on several occasions. When admitted to the house a month ago she had a cold left foot which blanched in thirty seconds when elevated and became engorged in forty-five when dependent. There were no pulsations on the left, but the right popliteal and posterior tibial pulsations were easily palpable. The temperature of the toes of the left foot was three to five degrees below that on the right and there was a definite elevation in the skin temperatures twenty-four hours after the intravenous use of typhoid vaccine. The left anterior tibial artery was biopsied.

In discussing the case Dr. Arthur Allen stated that only a single case of Buerger's disease has been reported in a Negro and very few in females. This is the only female patient in a group of 120 seen at the Massachusetts General Hospital. The clinical history in this case is typical, but some objection may be raised because of the luetic background. At operation Dr. Allen found the artery, vein, and nerve matted together in the characteristic manner of Buerger's disease.

Dr. Tracy Mallory demonstrated the pathology of this case and stated that the findings were characteristic but not pathognomonic of Buerger's disease in a quiescent stage.

Dr. Allen Graham, pathologist at the Cleveland Clinic, spoke on Malignant Goitre. Until 1920 the literature concerning thyroid malignancy was very small, dealt chiefly with severe cases in the terminal, hopeless stages, and simply divided the tumors into carcinomas and sarcomas. Experience with a large series of cases has enabled Dr. Graham to formulate fairly definite opinions on this subject. Malignant disease is very rare in an otherwise normal gland. The incidence will roughly parallel the incidence of endemic goitre and this factor is more important than heredity, age, sex, or race. Infections of the gland, of themselves rare, do not predispose to malignant changes and there is probably no relation between primary hyperthyroidism and cancer. The majority of malignant tumors arise in preëxisting benign adenomas in either normal glands or endemic goitres. The transformation is often unsuspected and is frequently an entirely unsuspected pathologic finding. A clinical diagnosis of malignancy in the early curable stages is difficult and will be correct in only about fifty per cent of the cases in a large series, mistakes being equal both ways. At operation it is not always possible for the surgeon to make a positive diagnosis and there are a few cases that the pathologist is not able to definitely diagnose. The usual criteria for the diagnosis of malignancy are not adequate for the diagnosis in thyroid tumors. Apparently benign tumors will metastasize and malignant tumors will remain localized. An encapsulated tumor may show blood vessel invasion and give rise to distant hematogenous metastases. A tumor that invades its capsule may extend locally or by way of the capsular lymphatics. Dr. Graham presented a number of illustrated case histories to show the difficulty of diagnosis, the varied clinical pictures, and the uncertain prognosis in patients with thyroid malignancy.

Dr. Shields Warren discussed "Degrees of Malignancy in Thyroid Cancer." In a study of the material of the Lahey Clinic he and Dr. Howard Clute have drawn up a tentative clinicopathologic classification of thyroid malignancy.

1. Tumors of low or potential malignancy. In this group are the encapsulated adenomas which show histologic evidence of blood vessel invasion and which will occasionally give rise to distant metastases although locally benign. Papillary adenomas, usually arising in lateral aberrant thyroid tissue, but also rarely in the gland, are likewise included in this group.

2. Tumors of moderate malignancy. Here are the papillary adenocarcinomas, similar to the above except that there is capsular invasion and a tendency to form solid sheets of tumor tissue. Simple adenocarcinomas which metastasize by way of the blood stream and capsular lymphatics are also included in the second group.

3. Tumors of high malignancy. Carcinoma simplex is composed of small undifferentiated cells which may grow in compact cords or diffusely with only occasional attempts at aveolar formation. The diffuse type is somewhat similar in appearance to carcinoma simplex of the stomach and in some cases is difficult to distinguish from lymphosarcoma. The second highly malignant type is the giant cell carcinoma in which the tumor cells assume many bizarre forms. The third type is the true fibrosarcoma which is the rarest of all the thyroid tumors and should be diagnosed only when it is possible to demonstrate the formation of intercellular substance by the tumor cells.

Dr. Jacob Lerman read a paper on "Some Observations on Adenomas of the Thyroid Gland." During the past two years 233 nodular goitres have been studied in the thyroid clinic at the Massachusetts General Hospital. Of these 92 have come to operation. Dr. Lerman classifies 56 as colloid nodular goitre, 29 as malignant adenomas, and seven as papillary cystadenomas. He demonstrated the varying degrees of malignancy in the latter groups by means of lantern slides. On the basis of these cases he believes that a single, hard, discrete, progressively growing nodule suggests malignancy. The firmness or hardness is not so important as the other criteria. In addition a papillary tumor may be irregular and there may be calcification in a malignant tumor. Of the last twenty-five cases, sixteen have been verified and twelve have been malignant adenomas.

The papers were discussed by Drs. Howard Clute, G. W. Holmes, Tracy Mallory, and Richard Miller.

## NEW ENGLAND ROENTGEN RAY SOCIETY

The February meeting of the New England Roentgen Ray Society was held in the Lower Out-Patient Amphitheatre of the Massachusetts General Hospital on the evening of February 17, at 8:15 P.M. A resolution on the death of Dr. L. B. Morrison was read by Dr. M. C. Sosman, and another resolution on the death of Dr. W. A. LaField was read by Dr. Fred W. O'Brien.

Dr. George W. Holmes was chairman of the program. The first paper was by Dr. J. Maurice Robinson on "Incidental Findings in Routine Heart Examinations." In making x-ray examinations of the heart it has been found helpful to fill the esophagus with a barium meal in order to demonstrate the arch of the aorta and the chambers of the heart. This technique leads to the discovery of unsuspected lesions in the esophagus. Among the interesting cases illustrated were carcinoma of the lower end of the esophagus, diaphragmatic hernia, right-sided aorta and esophageal diverticulum.

Dr. John Meachem showed films from two cases with "Calcification of Traumatic Origin Within the Skull." The first was that of a patient who had a skull injury followed by unconsciousness for seven hours. Eight months later the x-ray films showed calcification in the region of the right temporal bone. Another case with injury to the skull showed similar changes over the petrous portion of the left temporal bone three years later. The speaker interprets these areas of calcification as representing a deposition of calcium salts in areas of softening caused by subdural abscess. Dr. Sosman stated that he had never seen calcification in a subdural hemorrhage although it is frequently seen in hemorrhages within the brain substance.

Dr. Robert G. Vance presented films from "Some Unusual Types of Lobar Pneumonia." The cases illustrated were peculiar in that only a part of a lobe of the right lung was affected by the pneumonic processes and one was accompanied by partial collapse.

The subject of "The Distribution of Bone Metastases in Carcinoma of the Breast" was discussed by Dr. Richard Dresser. The studies were made on 375 cases at the Pondville Hospital, and 125 cases seen at the Huntington and Worcester Memorial Hospitals, and covered a period of five years. It was found that the skull, spine, pelvis, upper femora and humeri, and the anterio-posterior view of the chest always revealed metastases if there were any present, and hence films of these structures were made in all of the cases studied.

Of the 500 cases, 58% showed no metastases; 41% had bone or lung involvement, and of these, 14% had involvement of the lungs only, while in 17% only bones were involved, and 10% had metastases of both bones and lungs. The distribution of the metastases was as follows in the bones: pelvis 64%, spine 62%, skull 44%, extremities 42%, shoulder 31%, ribs and sternum 31%.

In the majority the metastases were multiple. Pain is an invariable accompaniment of metastases to the vertebrae, while pain is not common with metastases to the pelvis. From this study the following points were thought to be of special interest: (1) Bone metastases may be present and give pain months before there is x-ray evidence, (2) extensive metastases may be present without symptoms, (3) bone metastases are more common than pulmonary involvement, and (4) it is more important to rule out metastases to the bone than to the lung although both are necessary before operation is attempted.

Dr. Stevens S. Sanderson reviewed the use of "Spray Treatment" (exposure of the entire body) in eight cases of Hodgkin's disease, three of mycosis fungoides, three of myelogenous leukemia, four of lymphatic leukemia and three of polycythemia. The first three of these diseases responded very well to this type of therapy.

"Spasm of the Pyloric Antrum in Gastric Ulcers" was discussed by Dr. James R. Lingley. The speaker presented the history of a case that had been diagnosed by x-ray as having carcinoma of the stomach, and at exploratory operation showed no lesion. Two years later the same patient came in without symptoms, and had it not been for the negative exploratory operation previously, the x-ray findings would certainly have been diagnosed again as cancer of the stomach. In this case the x-ray picture was no doubt due to spasm of the pylorus. In 32 cases of gastric ulcer high on the lesser curvature studied by the speaker, 14 or 42 per cent showed spasm of the pylorus at some time during the disease.

Dr. E. Gerard Smith showed films from two cases with gastroenterostomy that had given symptoms of obstruction soon after operation. These patients showed marked retention of the barium meal eight hours after feeding. In one an exploratory operation was done and no obstruction found, while in the other case the feeding of more barium brought about a passage of the meal through the stoma. The speaker emphasized the slow accommodation of the stomach to the new passageway for food and that the symptoms of obstruction are only temporary.

Dr. William C. Martin showed some films demonstrating "Spastic Abnormalities of the Gastro-Intestinal Tract Due to Lead Poisoning." In one case spastic deformities had been seen in the colon antemortem and at autopsy no explanation could be found for them save lead poisoning. So far Dr. Martin has been unable to find a diagnostic point that differentiates this condition from that due to peritoneal irritation. However if there is no obstruction in the intestine, one should always suspect lead poisoning when the gastro-intestinal tract shows multiple spastic deformities.

Dr. Aubrey O. Hampton concluded the program

with a discussion of "Abnormal Gas and Soft Tissue Shadows in the Abdomen and Pelvis." The speaker showed films from a number of interesting cases that indicated only gas by x-ray and which might easily have been interpreted as gas in the intestine, also films showing that the gas bubble in the normal stomach as revealed by x-rays rests directly against the diaphragm, but with tumors in the left upper quadrant it may be separated from the diaphragm by a considerable space.

## LAWRENCE MEDICAL CLUB

The monthly meeting of the Lawrence Medical Club was held at the Medical Library of the Lawrence General Hospital, 1 Garden Street, Lawrence, Mass., on Monday evening, February 27, with Alfred E. Chesley, M.D., of Lawrence, as the host. The paper of the evening was furnished by Herbert Coulson, M.D., of Lawrence, who invited Cadis Phipps, M.D., of Boston, Professor of Theory and Practice of Medicine, at Tufts College Medical School, to be present as guest speaker. The subject of Dr. Phipps' valuable paper was Coronary Disease.

An exhibit was presented and described by J. Forrest Burnham, M.D., of Lawrence, consisting of eight elixirs selected from the National Formulary, by the American Pharmaceutical Association, of interest as vehicles and flavoring agents, for use in prescribing remedies. These preparations were made and provided by Wm. H. Glover, Ph.G., of Lawrence, President of the Massachusetts College of Pharmacy.

There was general discussion of both subjects of the evening and luncheon was served.

## ESSEX SOUTH DISTRICT MEDICAL SOCIETY

The Essex South District Medical Society held its regular meeting and dinner at Lynn Hospital, March 8, 1933.

Clinical program at 5 P.M.

1. Presentation of several cases of opacity interstitial keratitis, showing rapid improvement under neosalvarsan. Meyer M. Gilbert, M.D.
2. Injury to spinal cord with no injury to the bony structure. O. C. Blair, M.D.
3. a. Osteogenic Sarcoma of the knee joint with metastasis to the lung. b. Case of fracture-fascia lata sling operation for habitual dislocation of the shoulder. Charles Damsky, M.D.
4. Series of x-ray plates showing intestinal obstruction confirmed by autopsy and operation. Guy R. Jacobs, M.D.
5. a. Perinephritic abscess. b. Recto-Vesical fistula. Edward L. Peirson, Jr., M.D.
6. Bilateral Embryoma of testicle with metastasis in liver, occurring in a child three years of age. Maurice T. Briggs, M.D.
7. Presenting interesting pathological specimens. J. Stewart Rooney, M.D.

The address of the evening was delivered by Dr. Soma Weiss of Boston, whose subject was "Arterial Hypertension."

WM. T. HOPKINS, M.D., *Reporter.*

## THE NEW ENGLAND DERMATOLOGICAL SOCIETY

The regular quarterly clinical meeting of the New England Dermatological Society is to be held on Wednesday, April 12, at the Boston City Hospital at three o'clock in the afternoon.

WM. P. BOARDMAN, M.D., *Secretary.*

## HARVARD MEDICAL SOCIETY

The next meeting of the Harvard Medical Society will be held in the Peter Bent Brigham Hospital Amphitheatre (Van Dyke Street entrance), Tuesday evening, March 28, at 8:15 o'clock.

PROGRAM

1. Presentation of Cases.
2. Pernicious Anemia and Related Macrocytic Anemia. By Dr. William B. Castle.
3. General Aspects of Hypochromic Anemia. By Dr. George R. Minot.
4. Hypochromic Anemia in Pregnancy and Infancy. By Dr. Maurice B. Strauss.

JOHN HOMANS, M.D., *Secretary.*

## BOSTON MEDICAL HISTORY CLUB

Sprague Hall, 8 The Fenway
Monday, March 20, at 8:15 P.M.

Botany as a Pre-medical Subject in the Colonial Period. Charles F. Painter, M.D.

Paul Langerhans and His Thesis. Hyman Morrison, M.D.

Light refreshments.

JAMES F. BALLARD, *Secretary.*

## BOSTON CITY HOSPITAL

STAFF CLINICAL MEETING

Friday, March 24, 1933, at 8 P.M.
Cheever Amphitheatre

*On Subdural Hematomata*

1. The Cerebral Circulation in Relation to Subdural Hematomata. Dr. Stanley Cobb. (10 minutes.)
2. The Cerebrospinal Fluid in Relation to Subdural Hematomata. Dr. F. Fremont-Smith. (10 minutes.)
3. The Diagnosis and Treatment of Subdural Hematomata. With Demonstration of Patients. Dr. Donald Munro. (25 minutes.)
4. Subdural Hematomata at Autopsy. With Demonstration of Material. Dr. Timothy Leary. (30 minutes.)
5. The Mechanism of Growth, Postoperative Course and Prognosis of Subdural Hematomata. Dr. Tracy J. Putnam. (25 minutes.)

6. The Histology of Subdural Hematomata Removed at Operation. Dr. H. Huston Merritt. (10 minutes.)

### NORFOLK DISTRICT MEDICAL SOCIETY

A regular meeting of the Society will be held in the new Roxbury Health Unit, 20 Whittier Street, Roxbury (near Cabot and Tremont Streets), Tuesday, March 28, 1933, at 8:15 P.M. Telephone Garrison 8390.

Business:

Communication: The Management of Edema. Dr. James P. O'Hare.

Discussion.

Collation.

FRANK S. CRUICKSHANK, M.D., *Secretary.*
1695 Beacon Street.

## SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

March 16—New England Hospital for Women and Children. See notice on page 572, issue of March 9.

March 17—New England Roentgen Ray Society. See notice on page 572, issue of March 9.

March 17—Cutter Lecture on Preventive Medicine. See page 567, issue of March 9.

March 19—Harvard University. Free Public Lecture on Medical Subject. See page 607.

March 20—Boston Medical History Club. See page 612.

March 21—South End Medical Club. See page 571, issue of March 9.

March 23—Clinics in Medicine at Peter Bent Brigham Hospital. See page 607.

March 23—A Lecture by Dr. E. A. Graham. See page 607.

March 24—Boston City Hospital. Staff Clinical Meeting. See page 612.

March 28—Harvard Medical Society. See page 612.

April 1 and June 13—The American Board of Obstetrics and Gynecology. See page 607.

April 5—New England Heart Association. See page 571, issue of March 9.

April 12—The New England Dermatological Society. See page 612.

April 14—William Harvey Society. See page 765, issue of October 27.

April 19—New England Physical Therapy Society. See page 1010, issue of December 1.

May 8, 9, and 10—American Gynecological Society. See page 516, issue of March 2.

October 9-12—American Public Health Association. See page 403, issue of February 16.

## DISTRICT MEDICAL SOCIETIES

### ESSEX NORTH DISTRICT MEDICAL SOCIETY

May 3—Wednesday, Annual Meeting. Program to be announced.

### ESSEX SOUTH DISTRICT MEDICAL SOCIETY

Tentative Program

Wednesday, April 5, 1933—Essex Sanatorium, Middleton. Clinic 5 P.M. Dinner 7 P.M. Speaker: Dr. Wilson G. Smillie, Professor of Public Health Administration, School of Public Health, Harvard University. Subject: Common Colds.

Thursday, May 4, 1933—Censors' Meeting, Salem Hospital, 3:30 P.M.

Tuesday, May 9, 1933—Annual Meeting. Salem Country Club, Forest Street, Peabody. Golf in afternoon; greens fee $2.00. Dinner at 7 P.M. Speaker: Dr. George Burgess Magrath. Subject to be announced later. Ladies invited.

R. E. STONE, M.D., Secretary.

### FRANKLIN DISTRICT MEDICAL SOCIETY

Meeting will be held at the Weldon in Greenfield on the second Tuesday of May.

CHARLES MOLINE, M.D., Secretary.

### MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

May, at the Meadowbrook Club, Reading.

ALLAN R. CUNNINGHAM, M.D., Secretary.

### NORFOLK DISTRICT MEDICAL SOCIETY

March 28, 1933—See notice elsewhere on this page.

May—Annual Meeting. Time, place and subject to be announced.

FRANK S. CRUICKSHANK, M.D., Secretary.
1695 Beacon Street, Brookline.

### SUFFOLK DISTRICT MEDICAL SOCIETY

Wednesdays at 8:15 P.M.

March 29, 1933—Clinical Program, Massachusetts General Hospital.

April 26, 1933—Annual Meeting. Election of Officers. Scientific Program—Titles and speakers to be announced later.

The Medical Profession is cordially invited to attend these meetings.

WILLIAM H. ROBEY, M.D., President,
LELAND S. McKITTRICK, M.D., Secretary.

### WORCESTER DISTRICT MEDICAL SOCIETY

Wednesday, April 12—Dinner and scientific meeting at the Rutland State Hospital. Scientific program to be announced later.

Wednesday, May 10—The Annual Meeting. Place and program to be announced later.

ERWIN C. MILLER, M.D., Secretary.

## BOOK REVIEWS

*The Failing Heart of Middle Life.* By ALBERT S. HYMAN, M.D., and AARON E. PARSONNET, M.D. With a preface by David Riesman, M.D., Sc.D. Cloth. Price $5.00. Pp. 538. Philadelphia, F. A. Davis Co., 1932.

This volume contains a fairly complete survey of the various aspects of chronic myocardial disease, with special emphasis on coronary thrombosis and angina pectoris. The title "The Failing Heart of Middle Life" is particularly appropriate because what used to be called "senile heart" is now seen so frequently in the forties and fifties, and although most likely an aging process, is by no means confined to old age. The work is divided into six parts. The first concerns anatomy, physiology and pathology of the coronary arteries and the myocardium. The second discusses what the authors term the "myocardosis syndrome", otherwise called chronic myocarditis or myocardial insufficiency. The third and fourth take up the clinical and electrocardiographic aspects of coronary thrombosis. Angina pectoris is considered in the fifth. Why this should follow rather than precede coronary thrombosis is not quite clear. The final part is given over to the "Medicolegal Aspects of Sudden Death from Heart Disease."

This treatise is put out in an attractive form. The type is clear and the author's style is light and interesting. There is an abundance of illustrations which are unusually clear and well diversified. At the end there is an excellent bibliography of over 1200 references. The great prevalence and interest in disease of the heart muscle are sufficient reasons for such a publication. The views expressed throughout are fairly authoritative. A very impor-

tant contribution that underlies the work is emphasis on the insidious nature of heart muscle disease, and on the necessity of appraising most intelligently the early symptoms of myocardial insufficiency. One is impressed by a certain hopefulness that much in the way of prevention could be accomplished if cases were recognized earlier. Although one might readily question this point of view, optimism on the part of the patient, the physician, and the investigator will always lead to the greatest progress.

The discussion on the medicolegal aspects of sudden death from heart disease is especially timely, for the physician is becoming more and more entangled with questions of industrial compensation and insurance liabilities. Very little has been written about this subject in which we are bound to find ourselves more and more involved. The thirty-three pages given to this topic might well be doubled in any subsequent printing of this book. Altogether there is much in this one volume that students, physicians and even cardiologists could find valuable.

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*A Text-Book of Pathology.* By WILLIAM BOYD, M.D. Lea and Febiger. Philadelphia. 1932. Pp. 946. Price $10.00.

A welcome addition to the field is Boyd's Text-Book of Pathology. The clue to the success of Boyd's book lies in the first two sentences in his preface: "A speaker, whatever his subject, must keep his audience in mind, otherwise he is lost. Nor can the writer afford to forget this elementary truth."

It is more of the encyclopedic type of text-book than the discursive. In general there are adequate discussions of pathological physiology in relation to various disease conditions as well as pathological anatomy. Like all of Boyd's books it is extremely readable without sacrifice of accuracy. The illustrations are excellent technically, well chosen and abundant.

Undoubtedly this volume will take its place as one of the leading text-books of pathology for the use of students. To those familiar with the excellent "Surgical Pathology" and "The Pathology of Internal Disease" of the same author the present book will be somewhat disappointing, although obviously better suited for an introductory text on pathology.

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*A New Physiology of Sensation.* By W. BURRIDGE, D.M., M.A., Oxon. Humphrey Milford, Oxford University Press, New York, 1932. 76 Pages. 1 Figure. Price $1.50.

For several reasons this book might well be called a sequel to the author's monograph entitled "Excitability." Observations on factors influencing the activity of rhythmical tissue (the heart was used) serve as the basis for the author's theory of sensation. He contends that undue prominence has hitherto been given to muscle-nerve phenomena in explaining the nature of sensation. He claims to have discovered a new attribute of rhythmical tissue, "responsiveness", and suggests that this characteristic is dependent on the interaction of the two sources of potential energy, the "kinesiphores". One of the "kinesiphores" is calcium and the other is "freshness". "Freshness" is defined as "the fineness of colloidal aggregation-state with adequate salt adsorption".

The interaction of the "kinesiphores" is the basis upon which the author builds his interpretation of sensation. He also considers mental activity to be the result of interaction of the two "kinesiphores". It seems to the reviewer that assumptions are made which are not entirely justifiable. The retina is the sense organ with which the major portion of the author's discussion of sensation is concerned. The most radical departure from the trodden path is his conclusion that the retina possesses rhythmical activity.

Upon reading this book one gets the impression that the author has indulged in a philosophical interpretation of rather meager physiological observations. Since there is so little experimental evidence cited, it is difficult to know where facts end and fancies begin.

The book is rather difficult reading because no attempt is made to explain many very obscure statements, whereas, some of the relatively simple points are explained with great diligence. Another factor which adds to the difficulty of reading the book is the author's apparent unwillingness to use accepted terminology.

The bibliography is short and consists chiefly of references to publications of the author.

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*Division Palatine. Anatomie—Chirurgie Phonetique.* By VICTOR VEAU. Avec La Collaboration—De MME. S. BOREL. Masson & Cie. Price 140 fr.

Victor Veau's new volume on cleft palate surgery, containing 508 pages, is an excellent contribution to the literature of this not uncommon surgical problem. Thoroughness in descriptive detail combined with a multitude of first-rate photographs and diagrams makes the book a desirable and important addition to the library not only of those who specialize in this branch of surgery but also to the general surgeon.

The subject as considered by Veau readily separates itself into three main divisions, in which are discussed in much detail the anatomy, the surgical technique, and the problems of speech and phonetics of this surgical phenomenon. The section on anatomy is comprehensive, to say the least, presents all possible variations of abnormalities in cleft palate cases, and includes details on abnormalities of the bony structure as well as of the soft tissues.

In discussing surgical technique, the author's elaboration of the method is unique. He has presented a surgical description of 500 operated cases, many of them being given in meticulous detail and amply illustrated with diagrams. But what is of more value to the reader is the critical analysis of methods accompanying these descriptions in which

credit cannot be given to the coöperation of various members working together to produce a volume covering various aspects of the disease in a comprehensive manner. There is an excellent historical summary, a long chapter on etiology, and other divisions of the book are concerned with immunity, symptomatology, treatment, pathology, and epidemiology. The volume is illustrated extensively and contains numerous charts giving statistical data. There is a bibliography covering many hundred references. Here, therefore, one finds all the essential facts in regard to this unusual disease, combined with reports of the latest researches on epidemiology and treatment. This book, so carefully edited, is an invaluable reference to any student of the disease.

It is interesting to note that this book is entirely the product of women in medicine and is the first book, so far as the reviewer knows, by a number of authors, all of whom are of the female sex. This, perhaps, indicates the tendency of the times, for no one is better fitted than a woman to collect data such as this book contains. The sure hand of Dr. Josephine B. Neal, although she contributes only two of the chapters, is evident throughout this splendid publication.

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*Anatomy of the Brain and Spinal Cord.* By WILLIAM W. LOONEY, A.B., M.D., Dallas, Texas. Second Edition. Philadelphia. F. A. Davis Company. 1932. Price $4.50.

The first edition of this admirable textbook of Anatomy of the Central Nerve System was favorably reviewed in the *Journal* at the time of its publication. In this second edition, not only have there been extensive revisions and rewriting of many sections, with the elimination of ambiguities and errors, but there have been eliminated various inaccuracies in the original engraving and printing. The work is illustrated by 153 text figures from drawings by Mr. Louis Waters, many of them from original dissections by the author. There are appended a chapter on the autonomic nerve system and a chapter of clinical cases illustrating a dozen of the commoner lesions of the central nerve system. This work, which proceeds from the Anatomical Department of Baylor University, College of Medicine, should continue and extend its service as a convenient textbook for the teaching of this difficult department of human anatomy.

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*A Manual of Pharmacology.* By TORALD SOLLMANN. Fourth Edition. Philadelphia and London: W. B. Saunders Company, 1932. Price $7.50.

Few authors have the skill to write a book which is equally useful as a textbook for medical students and as a reference book for clinicians and research workers, but this is what Sollmann has been doing for many years. The fourth edition of his well-known Manual of Pharmacology, which has just appeared, differs from earlier editions (which have been noticed in the *Journal*) chiefly in being brought right up to date.

That pharmacology (the most ancient and the most important branch of medicine from the standpoint of relieving pain and the cure of disease) is still advancing is shown by the list of drugs the discussion of which the author has found necessary to introduce or to expand and change.

Among these additions are a fuller discussion of recent work on the mode of action of the arsphenamines, consideration of the newer barbiturates, cinchophen toxicosis, the use of gold compounds, that of iodine compounds in roentgenography, liver extract, morphine addiction, pituitary, quinine and plasmoquin, sex hormones, the toxicology of thallium, and the pharmacology of vitamins. Especially worthy of note, perhaps, is the discussion of new compounds of bismuth and mercury of value in the treatment of syphilis; significant advances in the use of these preparations have been made by the author and his colleagues H. N. Cole and v. Oettingen. But the size of this edition has been increased by only 53 pages.

There is a carefully selected bibliography of 108 pages which will enable a reader to go to the original sources of information. There is also a carefully prepared index of 19 pages.

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*Behind the Door of Delusion.* By "INMATE WARD 8." New York: The Macmillan Company, 1932. xvi + 324 pages. Price, $2.00.

This volume, written in an active, narrative style, purports to be the autobiographical experiences of a patient confined to one of the State hospitals for mental disease. It gives a good insight into many features of custodial care, although the evaluation of the necessary business of caring for large numbers of patients with a few attendants is not always sound. The patient himself appears to be one who was used to many of the finer things of life and he is greatly disturbed by lowering the level of his standards of living, necessary, of course, in a public institution. There is little to criticize in this book, although one cannot quite see its value or the reason for its publication. Presumably it will appeal to certain morbid, curious people. Its value to medicine in general, or psychiatry in particular, is very slight.

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*Classic Descriptions of Disease with Biographical Sketches of the Authors.* By RALPH H. MAJOR, Professor of Medicine, University of Kansas School of Medicine. With 127 Illustrations. 630 Pages. Springfield, Illinois, Charles C. Thomas, 1932. Price $4.50.

This work of Dr. Major's is a welcome addition to the non-didactic literature of medicine. It is a collection of many selections from important original publications, so arranged as to summarize in historical perspective our knowledge of the diseases included in internal medicine. It offers reading which

is both entertaining and illuminating. While it will probably be read chiefly for diversion, it is also capable of enlarging the viewpoint of any reader. From it we may obtain much at first hand which we have accepted with less assurance and often with less accuracy by indirect hearsay. Some passages also cause us to reflect upon the impermanence of medical conceptions. When, for instance, we hear it stated with assurance that in chlorosis there is a minutely described circulation of the blood between the liver and the womb, which is not accepted in present teaching, it may well cause us to hesitate before being too positive about some beliefs of today. Not all of the selections are ancient, however. The work of Fitz on appendicitis, and that of Minot on pernicious anaemia appear in conjunction with that of authors in remote ages.

The numerous illustrations add to the attractiveness of the volume.

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*The Advance of Medicine.* By LORD MOYNIHAN. Oxford: The Clarendon Press, 1932. 64 pages. Price $1.00.

This little book briefly covers the essentials of the history of medicine and leads up to Lord Moynihan's summary of the present tendencies, based on a sound knowledge of the past. He points out very clearly that the comparatively recent separation of physiology from clinical medicine is not leading to good results. He, therefore, feels that these two branches should be more closely related; that the clinician should know more of the advances in physiology and that the physiologist, on the other hand, should carry his work into the hospitals. "Normal man," he says, "who offers a most promising field for inquiry, has been too much neglected: and in respect of early departures from normal has hardly yet been investigated by physiologists, or by methods of physiology. We need to create a science of para-physiology, and to conduct the most critical investigation of man's functional aberrations at the earliest period of their development." This is only one of the many ideas expressed in this important lecture, which should be read by all who are interested in the advance of medicine, in its widest sense. Beautifully and clearly written, this little volume should be a stimulation to greater effort on the part of both the physiologist and the clinician.

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*Your Teeth and Their Care.* By CARL W. ADAMS, D.D.S., San Bernardino, Calif. The C. V. Mosby Co., St. Louis. Price $1.25.

Few if any books presenting the facts about dentistry and the importance of dental care are available today for the general public, and for this reason, this little volume by Dr. Adams should fill an important need. Considerable care has been taken to keep it inside a conveniently small compass, placing it thus within the price range of most persons and thereby increasing its effectiveness.

The material has been organized along the lines of unit subjects, there being seven chapters covering respectively the structure and function of the teeth and oral tissues, irregularities of the teeth, diseases of the teeth and their resulting lesions, pyorrhea and diseases of the soft tissues of the mouth, oral prophylaxis, relation of diet to oral health, and the dentist and dental procedures.

Entirely in keeping with modern dental theory and practice, the preventive point of view has been emphasized throughout. Despite a widespread lack of appreciation of the part which dentistry can play in preventive medicine, not only among the general public but also among the medical profession, it is unthinkable that any book written by a dentist today could approach this great and interesting problem from other than the preventive standpoint. For this reason, the material contained in this little volume should be informative and interesting to the medical profession as well as the general public.

One might have wished that Dr. Adams had eliminated much of the technical detail from his discussion and that he had drawn a more vivid picture of dental disease as a vital factor in general disease conditions, but withal no one can deny the practical value of his book as a means of stimulating more general thought on this great problem and a wider sympathy with the aims and purposes of the conscientious dentist of today.

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## BOOKS RECEIVED FOR REVIEW

*Colonic Irrigation* by W. Kerr Russell. Published by William Wood & Co. 191 Pages. Price $3.00.

*The 1932 Year Book of Radiology.* Diagnosis edited by Charles A. Waters. Therapeutics edited by Ira I. Kaplan. Published by The Year Book Publishers, Inc. 750 Pages. Price $6.00.

*Thérapeutique Médicale. V. Peau, Syphilis et Cancer* by M. Loeper and others. Published by Masson et Cie. 408 Pages. Price 50 fr.

*Studies from the Rockefeller Institute for Medical Research.* Reprints. Volume 83. Published by The Rockefeller Institute for Medical Research. 571 Pages.

*Syllabus of Medical History* by Victor Robinson. Published by Froben Press, Inc. 110 Pages. Price $1.00.

*Final Report of the Commission on Medical Education.* Obtainable at the Office of the Director of Study, 630 West 168th Street, New York. 560 Pages.

*Radiologic Maxims* by Harold Swanberg. Published by the Radiological Review Publishing Company. 127 Pages. Price $1.50.

*Varicose Veins and Haemorrhoids and Their Treatment* by V. Meisen. Published by Levin & Munksgaard and Oxford University Press. 149 Pages.